TOSHIBA

FILE NO. 023-200104

SERVICE MANUAL

COLOR TELEVISION

N1N Chassis

36A61

(TAC0112)

– SUMMARY –

36A61 is the same as 36AX61 except for the parts tabled on back of this sheet.
Use this service manual together with the service manual of 36AX61 (File No. 020-200102).

PUBLISHED IN JAPAN, May., 2001 (So)

REPLACEMENT PARTS LIST DIFFERENCES

Location No.	Part No.	Description
A201	23540611	Front Cover
C439	24829433	PF, 0.043μF, 400V
C440	24082957	PF, 7500pF, $\pm$3%, 1500V
C442	24082920	PF, 0.39μF, 315V
K912	23306263	Remote Hand Unit, CT-9946
L441	23233034	Coli, Linearity, TLN2206AT
L442	23248122	Coil, Choke, TLN3384D
L901	23200463	Coil, Degaussing, TSB-2415CK
Q301	23319787	IC, LA7833S
Q706	23114433	Transistor, 2SC1815-Y
Q910	23114433	Transistor, 2SC1815-Y
Q914	23114433	Transistor, 2SC1815-Y
T461	23236675	Transformer, Flyback, TFB4132EY
T461A	23192957	Anode Cap, TCC5602AT
✻ U801G	23786304	PWR/D Board, PB9965E
✻ U801P	23786305	PWR/D Board, PB9965E
✻ U901G	23786313	CRT Drive Board, PB9973D
✻ U901P	23786312	CRT Drive Board, PB9973D
✻ U902G	23786321	Signal Board, PB9966E
✻ U902P	23786320	Signal Board, PB9966E
V901	23312923	Picture Tube, A90AKB50X02V
Y101	23565245	Owner's Manual, English, 36A61
Y101F	23565246	Owner's Manual, French, 36A61

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TOSHIBA

FILE NO. 020-200102

SERVICE MANUAL

COLOR TELEVISION

N1N Chassis

36AX61

(TAC0113)

PUBLISHED IN JAPAN. Mar., 2001 So

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CHAPTER 1 GENERAL ADJUSTMENTS

SAFETY INSTRUCTIONS

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" INSTRUCTIONS BELOW.

X-RAY RADIATION PRECAUTION

1. Excessive high voltage can produce potentially hazardous X-RAY RADIATION. To avoid such hazards, the high voltage must not be above the specified limit. The nominal value of the high voltage of this receiver is (A) kV at zero beam current (minimum brightness) under a 120V AC power source. The high voltage must not, under any circumstances, exceed (B) kV.

   Refer to table-1 for high voltage (A), (B).
   (See SETTING & ADJUSTING DATA on page 17)

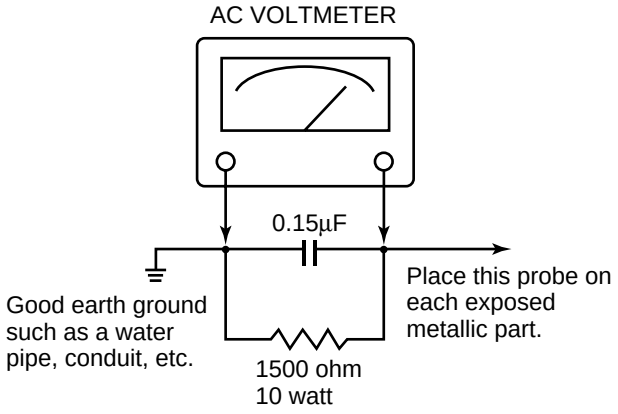
   Each time a receiver requires servicing, the high voltage should be checked following the HIGH VOLTAGE CHECK procedure in this manual. It is recommended that the reading of the high voltage be recorded as a part of the service record. It is important to use an accurate and reliable high voltage meter.
2. This receiver is equipped with a Fail Safe (FS) circuit which prevents the receiver from producing an excessively high voltage even if the B+ voltage increases abnormally. Each time the receiver is serviced, the FS circuit must be checked to determine that the circuit is properly functioning, following the FS CIRCUIT CHECK procedure in this manual.
3. The only source of X-RAY RADIATION in this TV receiver is the picture tube. For continued X-RAY RADIATION protection, the replacement tube must be exactly the same type tube as specified in the parts list.
4. Some part in this receiver have special safety-related characteristics for X-RAY RADIATION protection. For continued safety, parts replacement should be undertaken only after referring to the PRODUCT SAFETY NOTICE below.

SAFETY PRECAUTION

WARNING : Service should not be attempted by anyone unfamiliar with the necessary precautions on this receiver. The following are the necessary precautions to be observed before servicing this chassis.

1. An isolation Transformer should be connected in the power line between the receiver and the AC line before any service is performed on the receiver.
2. Always discharge the picture tube anode to the CRT conductive coating before handling the picture tube. The picture tube is highly evacuated and if broken, glass fragments will be violently expelled. Use shatter proof goggles and keep picture tube away from the unprotected body while handling.
3. When replacing a chassis in the cabinet, always be certain that all the protective devices are put back in place, such as; non-metallic control knobs, insulating covers, shields, isolation resistor-capacitor network etc.
4. Before returning the set to the customer, always perform an AC leakage current check on the exposed metallic parts of the cabinet, such as antennas, terminals, screwheads, metal overlays, control shafts etc. to be sure the set is safe to operate without danger of electrical shock. Plug the AC line cord directly into a 120V AC outlet (do not use a line isolation transformer during this check). Use an AC voltmeter having 5000 ohms per volt or more sensitivity in the following manner:

   Connect a 1500 ohm 10 watt resistor, paralleled by a 0.15 µF, AC type capacitor, between a known good earth ground (water pipe, conduit, etc.) and the exposed metallic parts, one at a time. Measure the AC voltage across the combination of 1500 ohm resistor and 0.15 µF capacitor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metallic part. Voltage measured must not exceed 0.3 volts rms. This corresponds to 0.2 milliamp. AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.


AC VOLTMETER
0.15µF
Good earth ground such as a water pipe, conduit, etc.
Place this probe on each exposed metallic part.
1500 ohm
10 watt

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These characteristics are often passed unnoticed by a visual inspection and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the international hazard symbols on the schematic diagram and the parts list.
Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create shock, fire, X-ray radiation or other hazards.

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE “X-RAY RADIATION PRECAUTION”, “SAFETY PRECAUTION” AND “PRODUCT SAFETY NOTICE” ON PAGE 3 OF THIS MANUAL.

SET-UP ADJUSTMENT (FOR 13”, 14”, 19”, 20”)

■ The following adjustments should be made when a complete realignment is required or a new picture tube is installed. Perform the adjustments in order as follows :

1. Color Purity
2. Convergence
3. White Balance

Note: The PURITY/CONVERGENCE MAGNET assembly and rubber wedges need mechanical positioning. Refer to figure 1.
Mounting position of the purity magnet assembly should fit to same position as old one because slightly difference to the position depen on a kind of tube.

* There are no adjustment of purity and convergence in some picture tube (Unified with purity magnet)

COLOR PURITY ADJUSTMENT

NOTE : Before attempting any purity adjustments, the receiver should be operated for at least fifteen minutes.

1. Demagnetize the picture tube and cabinet using a degaussing coil.
2. Set the brightness and contrast to maximum.
3. Use a green raster from among the built-in test signals.
4. Loosen the clamp screw holding the yoke and slide the yoke backward or forward to provide vertical green belt (zone) in the picture screen.
5. Remove the Rubber Wedges.
6. Rotate and spread the tabs of the purity magnet (See figure 2.) around the neck of the picture tube until the green belt is in the center of the screen. At the same time, enter the raster vertically.
7. Slowly move the yoke forward or backward until a uniform green screen is obtained. Tighten the clamp screw of the yoke temporarily.
8. Check the purity of the red and blue raster.

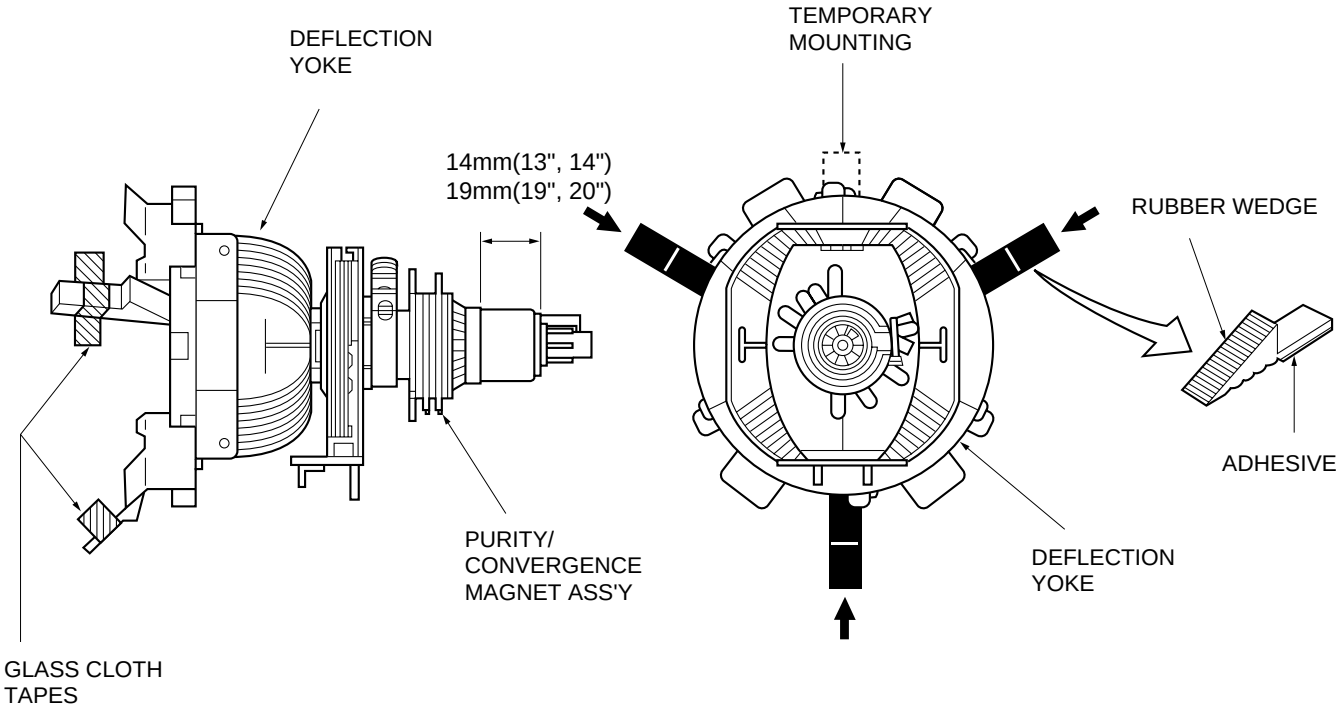


Figure 1.

CONVERGENCE ADJUSTMENTS

NOTE: Before attempting any convergence adjustments, the receiver should be operated for at least fifteen minutes.

■ CENTER CONVERGENCE ADJUSTMENT

1. Use the cross-dot pattern from among the built-in test signals.
2. Set the brightness and contrast for well defined pattern.
3. Adjust two tabs of the 4-Pole Magnets to change the angle between them (See figure 2.) and superimpose red and blue vertical lines in the center area of the picture screen.
4. Turn the both tabs at the same time keeping the angle constant to superimpose red and blue horizontal lines at the center of the screen.
5. Adjust two tabs of 6-Pole Magnets to superimpose red/blue line and green one. Adjusting the angle affects the vertical lines and rotating both magnets affects the horizontal lines.
6. Repeat adjustments 3, 4, 5 keeping in mind red, green and blue movement, because 4-Pole Magnets and 6-Pole Magnets have mutual interaction and make dot movement complex.

■ CIRCUMFERENCE CONVERGENCE ADJUSTMENT

1. Loosen the clamping screw of deflection yoke slightly to allow the yoke to tilt.
2. Temporarily put a wedge as shown in figure 1. (Do not remove cover paper on adhesive part of the wedge.)
3. Tilt front of the deflection yoke up or down to obtain better convergence in circumference. (See figure 3.) Push the mounted wedge into the space between picture tube and the yoke to fix the yoke temporarily.
4. Put other wedge into bottom space and remove the cover paper to stick.
5. Tilt front of the yoke right or left to obtain better convergence in circumference. (See figure 3.)
6. Keep the yoke position and put another wedge in either upper space. Remove cover paper and stick the wedge on picture tube to fix the yoke.
7. Detach the temporarily mounted wedge and put it in another upper space. Stick it on picture tube to fix the yoke.
8. After fixing three wedges, recheck overall convergence. Tighten the screw firmly to fix the yoke and check the yoke is firm.
9. Stick three adhesive tapes on wedges as shown in figure 1.

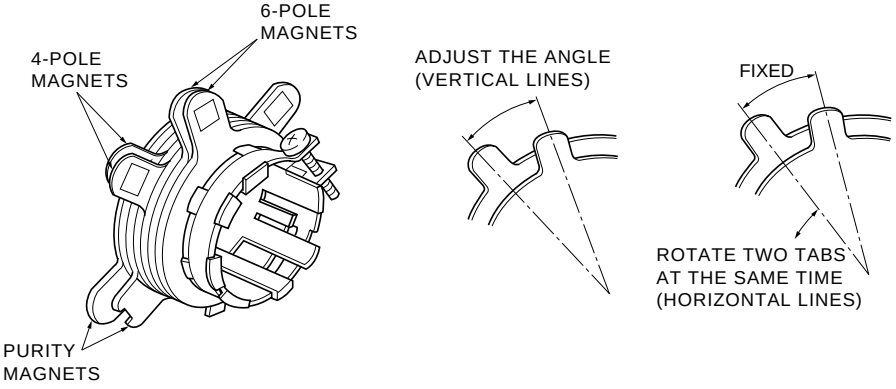
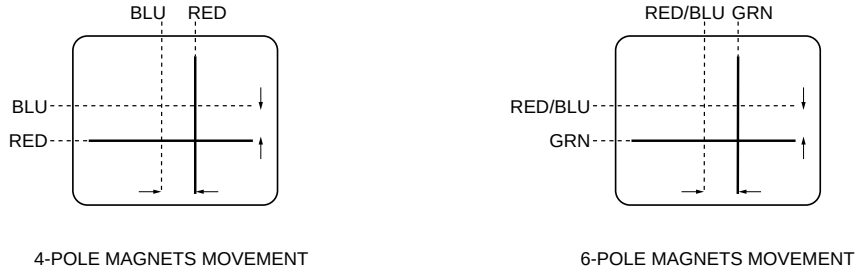


Figure 2.



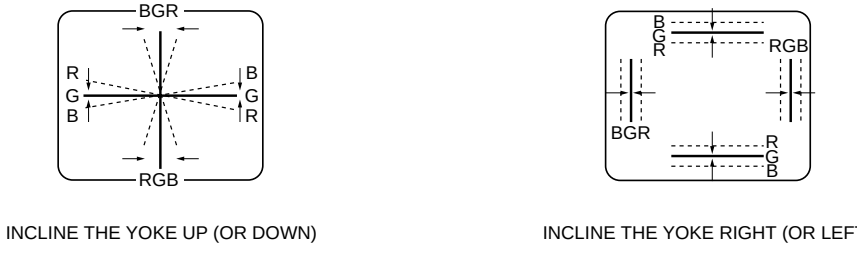


Figure 3. Dot Movement Pattern

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE “X-RAY RADIATION PRECAUTION”, “SAFETY PRECAUTION” AND “PRODUCT SAFETY NOTICE” ON PAGE 3 OF THIS MANUAL.

(FOR 35”, 36”)

■ The following adjustments should be made when a complete realignment is required or a new picture tube is installed. Perform the adjustments in order as follows :

1. Color Purity
2. Convergence
3. White Balance

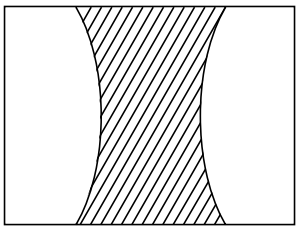
Note: The PURITY/CONVERGENCE MAGNET assembly and rubber wedges need mechanical positioning. Refer to figure 1.
Mounting position of the purity magnet assembly should fit to same position as old one because slightly difference to the position depen on a kind of tube.

* There are no adjustment of purity and convergence in some picture tube (Unified with purity magnet)

COLOR PURITY ADJUSTMENT

NOTE : Before attempting any purity adjustments, the receiver should be operated for at least fifteen minutes.

1. Evenly degauss the entire screen.
2. Set the CONTRAST and BRIGHTNESS Controls to the maximum.
3. Display built-in green raster using the TEST SIGNAL SELECTION function.
4. Loosen the clamp screw holding the deflection yoke (and remove the Rubber Wedges).
5. Slide the yoke forward or backward to provide vertical green belt (zone) in the picture screen.
6. Rotate and spread the tabs of the purity magnet (See figure 3.) around the neck of the picture tube until the green belt is in the center of the screen. At the same time, center the raster vertically by adjusting the magnet as shown below.



Green Belt

7. Move the yoke slowly forward or backward until a uniform green screen is obtained. Tighten the clamp screw of the yoke temporarily.
8. Check the purity of the red and blue raster.
9. Put four wedges into the space between the picture tube and the yoke to hold the yoke in the adjusted position. (See figure 2.)
   Do not tilt the yoke by excessive insertion of the wedge.
10. Remove cover paper of wedge and stick wedges on the tube to fix the yoke in the adjusted position.
    Fix the wedges with glass cloth tapes.

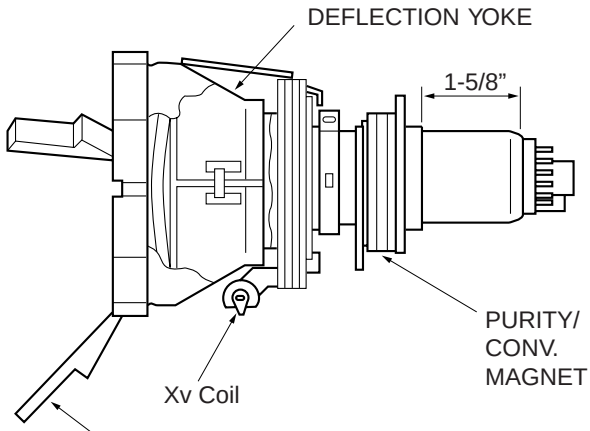


Figure 1.

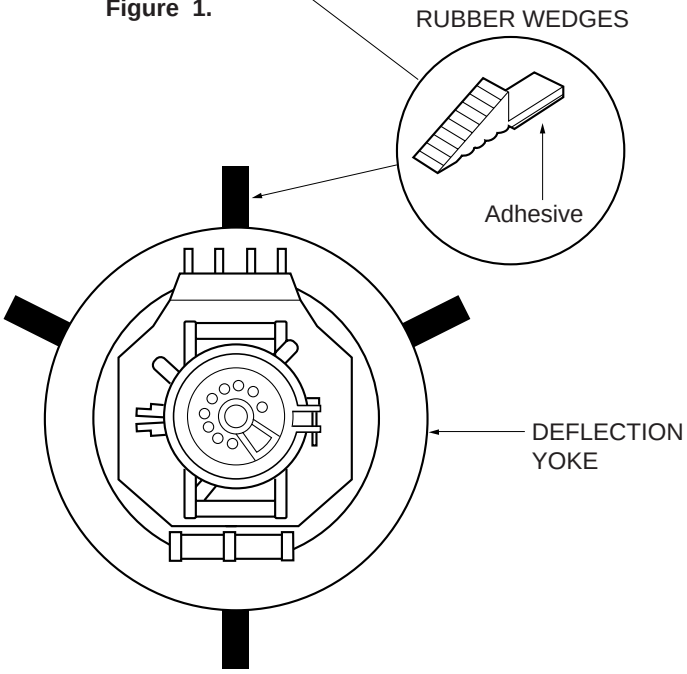


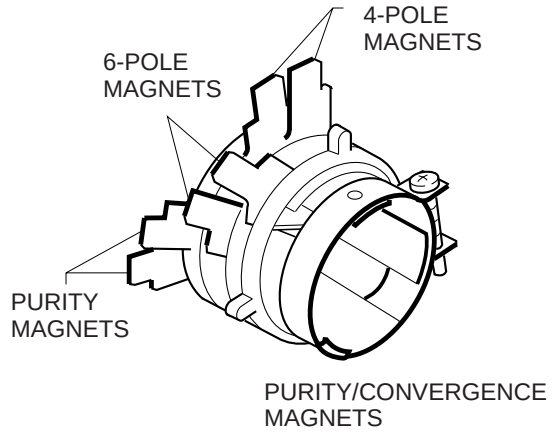
Figure 2.

CONVERGENCE ADJUSTMENTS

NOTE: Before attempting any convergence adjustments, the receiver should be operated for at least fifteen minutes.

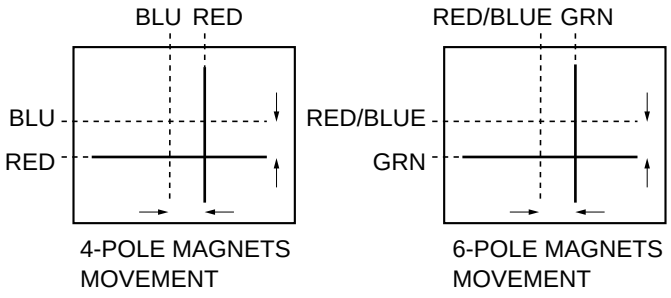
■ **CENTER CONVERGENCE ADJUSTMENT**

1. Display built-in cross-dot pattern using the TEST SIGNAL SELECTION function.
2. Adjust the BRIGHTNESS and CONTRAST Controls for well defined pattern.
3. Loosen the tightening ring and adjust two tabs of the 4-Pole Magnets to change the angle between them (See figure 3.) and superimpose red and blue vertical lines in the center area of the picture screen. (See figure 4.)
4. Turn the both tabs at the same time keeping the constant angle to superimpose red and blue horizontal lines at the centre of the screen. (See figure 4.)
5. Adjust two tabs of 6-Pole Magnets to superimpose red/blue line with green one. Adjusting the angle affects the vertical lines and rotating both magnets affects the horizontal lines.
6. Repeat adjustments 3, 4, 5 keeping in mind red, green and blue movement, because 4-Pole Magnets and 6-Pole magnets interact and make dot movement complex.
7. After completing the "CENTER CONVERGENCE ADJUSTMENT" tighten the tightening ring to fix the magnets.



ADJUSTMENT OF MAGNETS

Figure 3.



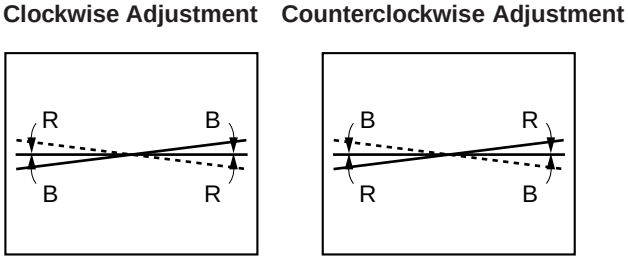
Center Convergence by Convergence Magnets

Figure 4.

■ **Xv COIL ADJUSTMENT**

Adjust the Xv coil (on the deflection yoke) to correct misconvergence at both sides on screen.

Use a hexagonal tip stick (plastic) to adjust the core of coil.

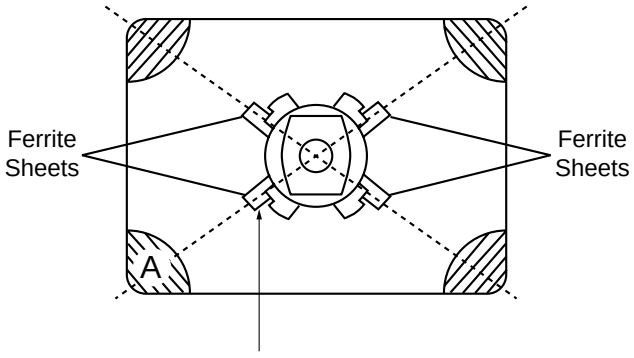


X_V Cross Pattern View

■ **SCREEN-CORNER CONVERGENCE**

When the misconvergence is still evident on corners even though the above adjustment is done, use the ferrite sheet (Part No. 23993622) to correct misconvergence.

1. Put ferrite sheets into the space under the yoke. Decide such position that misconvergence becomes minimum, watching picture screen. (See figure below.)
2. Remove cover paper of ferrite sheet to stick it in the place on the tube. Put adhesive tapes on ferrite sheets to fix.



SERVICE MODE

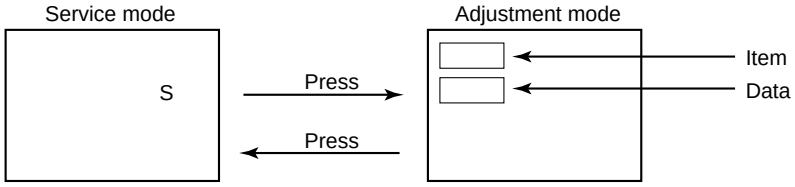
1. ENTERING TO SERVICE MODE

1) Press MUTE button once on Remote Control.
2) Press MUTE button again to keep pressing.
3) While pressing the MUTE button, press MENU button on TV set.

(Service mode display)

2. DISPLAYING THE ADJUSTMENT MENU

1) Press MENU button on TV.



3. KEY FUNCTION IN THE SERVICE MODE

The following key entry during display of adjustment menu provides special functions.

A single horizontal line ON/OFF:	TV (ANT)/VIDEO button (on TV)
Test signal selection :	TV (ANT)/VIDEO button (on Remote)
Selection of the adjustment items :	Channel ▲/▼ (on TV or Remote)
Change of the data value :	Volume ▲/▼ (on TV or Remote)
Adjustment menu mode ON/OFF :	MENU button (on TV)
Initialization of the memory (QA02) :	RECALL+Channel button on TV (▲)
Initialization of the self diagnostic data:	RECALL+Channel button on TV (▼)

“RCUT” selection :	1 button
“GCUT” selection :	2 button
“BCUT” selection :	3 button
“SCNT” selection :	4 button
“COLC” selection :	5 button
“TNTC” selection :	6 button
Self diagnostic display ON/OFF :	9 button

4. SELECTING THE ADJUSTING ITEMS

1) Every pressing of CHANNEL ▲ button in the service mode changes the adjustment items in the order of table-2. (▼ button for reverse order)

Refer to table-2 for preset data of adjustment mode.
(See SETTING & ADJUSTING DATA on page 17)

5. ADJUSTING THE DATA

1) Pressing of VOLUME ▲ or ▼ button will change the value of data in the range from 00H to FFH. The variable range depends on the adjusting item.

6. EXIT FROM SERVICE MODE

1) Pressing POWER button to turn off the TV once.

■ INITIALIZATION OF MEMORY DATA OF QA02

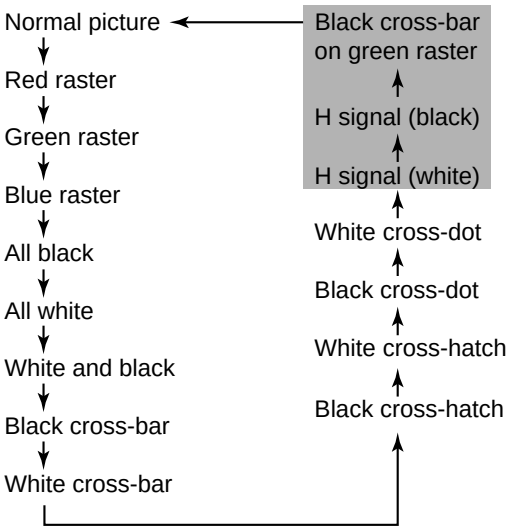
After replacing QA02, the following initialization is required.

1. Enter the service mode, then select any register item.
2. Press and hold the RECALL button on the Remote, then press the CHANNEL ▲ button on the TV. The initialization of QA02 has been complated.
3. Check the picture carefully. If necessary, adjust any adjustment item above. Perform “Programming Channel Memory” on the owner’s manual.

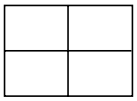
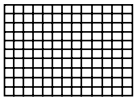
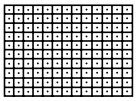
CAUTION: Never attempt to initialize the data unless QA02 has been replaced.

7. TEST SIGNAL SELECTION

1) Every pressing of TV/VIDEO button on the Remote Control in the Service mode, changes the built-in test patterns on screen in the following order.



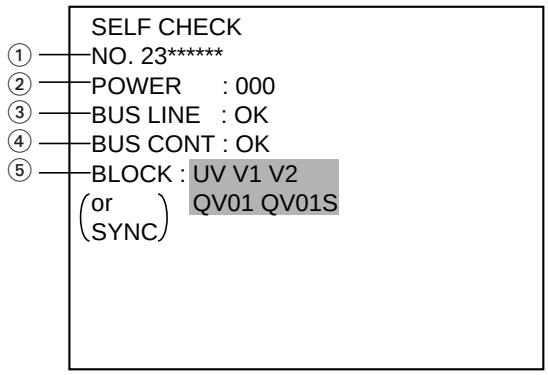
Note: If the video cable is connected to the VIDEO1 INPUT jack, the built-in pattern signals are not displayed.

Signals	Picture
• Red raster • Green raster • Blue raster • All Black • All White	
• Black & White	
• Black cross-bar • White cross-bar • Black cross-bar on green raster	
• Black cross-hatch • White cross-hatch	
• Black cross-dot • White cross-dot	
• H signal (white) • H signal (black)	

* The signals marked with ▒ are not usable to display in the Test signal for some model.

8. SELF DIAGNOSTIC FUNCTION

1) Press “9” button on Remote Control during display of adjustment menu in the service mode.
   The diagnosis will begin to check if interface among IC’s are executed properly.
2) During diagnosis, the following displays are shown.



① Part number of microprocessor (QA01)
② Operation number of protection circuit (current limiter) . . . . “000” is normal.
③ BUS line check
- “OK” ..... Normal
- “NG” ..... SCL-GND or SAD-GND short circuit

④ BUS line ACK (acknowledge) check
- “OK” ..... Normal

Display of Location Number . . . . NG
(Display example)
“QA02 NG”, “H001 NG”, “Q501 NG” etc.

Note: The indication of failure place is only one place though failure places are plural. When repair of a failure place finishes, the next failure place is indicated. (The order of priority of indication is left side.)

⑤ Sync. signal check
- Green display ..... Normal
- Cyan display ..... No check
- Red display ..... NG

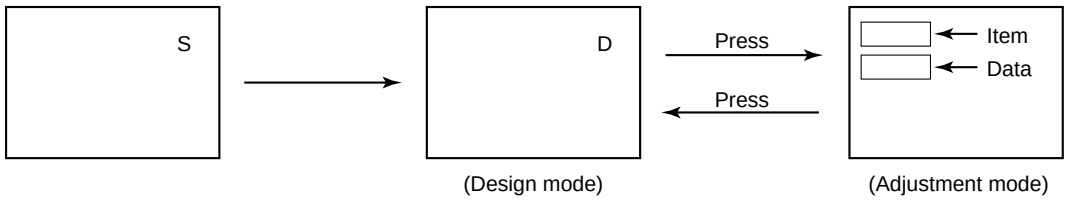
UV ..... TV mode
V1 ..... VIDEO 1 mode
V2 ..... VIDEO 2 mode

* The item marked with ■ are not usable to display in the SELF DIAGNOSTIC FUNCTION for some model.

DESIGN MODE

1. ENTERING TO DESIGN MODE

1) Select the Service mode. 2) While pressing RECALL button on Remote and press MENU button on TV. 3) Press MENU button on TV.



When QA02 is initialized, items “OPT0”, “OPT1” and “OPT2” of DESIGN MODE are set to the data of the representative model of this chassis family.
Therefore, because ON-SCREEN specification remains in the state of the representative of model. This model is required to reset the data of items “OPT0”, “OPT1” and “OPT2” .

2. SELECTING THE ADJUSTING ITEMS

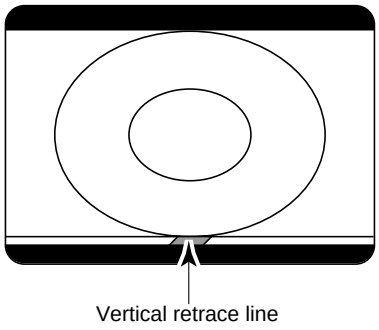
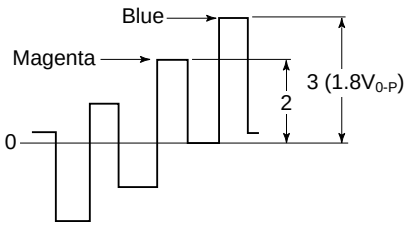
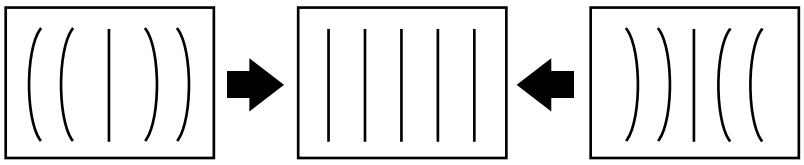
Every pressing of CHANNEL ▼ button in the design mode changes the adjustment items in the order of table-3.
(▲ button for reverse order)

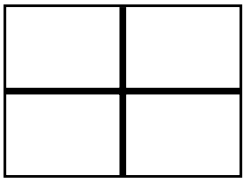
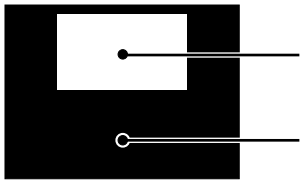
Refer to table-3 for data of design mode.
(See SETTING & ADJUSTING DATA on page 17)

3. ADJUSTING THE DATA

Pressing of VOLUME ▲ or ▼ button will change the value of data.

ELECTRICAL ADJUSTMENT

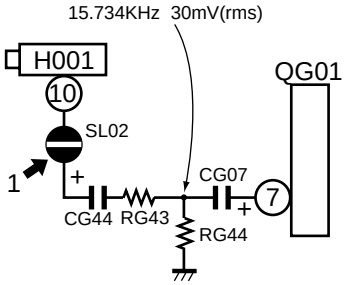
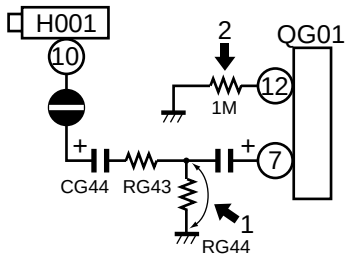
ITEM	ADJUSTMENT PROCEDURE
FOCUS VR ADJ	1. Enter the service mode, then select any register item. 2. Press the TV/VIDEO button on the Remote until the black cross-bar pattern appears on the screen. 3. Adjust the FOCUS control (on T461) for well defined scanning lines on the picture screen.
SUB-BRIGHTNESS (BRTC)	1. Constrict the picture height until the vertical retrace line appears adjusting the HEIGHT control on the MAIN board. 2. Adjust the CONTRAST to the minimum and BRIGHTNESS to the center. 3. Enter the service mode, then select "**BRTC**" register. 4. Adjust the data value so the belt of vertical retrace line just disappear. 5. Adjust the CONTRAST for the desired contrast. 6. Adjust the HEIGHT control. 
SUB-COLOR (COLC) SUB-TINT (TNTC)	1. Receive color-bar signal from color-bar generator. 2. Press the RESET button. 3. Connect oscilloscope to base of Q906 on CRT-D board. 4. Enter the service mode, then select "**COLC**". 5. Adjust the SUB-COLOR by pressing the VOLUME ▲ or ▼ button to achieve about $1V_{0\text{-}p}$ of blue bar. 6. Select "**TNTC**" register. 7. Adjust the data value to obtain the blue bar to magenta bar ratio of 3:2 as shown. 8. Select "**COLC**" register. 9. Adjust the data value to achieve $1.8V_{0\text{-}p}$ of blue bar on scope. 10. Check the picture with off-air signal. 
WIDTH (WID)	1. Call up the adjustment mode display, then select the item **WID**. 2. Press the VOLUME ▲ or ▼ button to get the picture so the left and right edges of raster begins to lack. 3. Press the VOLUME ▲ or ▼ button to advance the data by 7 steps. Note : Check the horizontal picture position is correct.
E-W PARABOLA (DPC)	1. Call up the adjustment mode display, then select the item **DPC**. 2. Press the TV/VIDEO button on Remote until the cross-hatch pattern appears on the screen. 3. Press the VOLUME ▲ or ▼ button to make vertical lines straight as shown below. 

<table>
<tr><th>ITEM</th><th>ADJUSTMENT PROCEDURE</th></tr>
<tr><td>HORIZONTAL POSITION
(HPOS)
VERTICAL POSITION
(VPOS)</td><td>1. Call up the adjustment mode display, then select the item HPOS or VPOS.
2. Press the TV/VIDEO button on Remote until the white cross-bar or black cross-bar pattern appears on the screen.
3. Adjust the HORIZONTAL and VERTICAL position alternately by pressing the VOLUME ▲ or ▼ button for proper picture position.
4. Check the picture with off-air signal.
  </td></tr>
<tr><td>HEIGHT
(HIT)</td><td>1. Call up the adjustment mode display, then select the item HIT.
2. Press the VOLUME ▲ or ▼ button to get the picture so the top of raster begins to lack.
3. Press the VOLUME ▲ button to advance the data by 9 steps.
Note : Check the vertical picture position is correct.</td></tr>
<tr><td>WHITE BALANCE
(RCUT)
(GCUT)
(BCUT)
(GDRV)
(BDRV)</td><td>1. Adjust the CONTRAST control to the center, and BRIGHTNESS control to the maximum.
2. Call up the adjustment mode display, and press the TV/VIDEO button on Remote until the white and black pattern appears on the screen.
3. Adjust the following item with the CHANNEL ▲/▼ and VOLUME ▲/▼ buttons.
RCUT ⟶ Data : 40H
GCUT ⟶ Data : 40H
BCUT ⟶ Data : 40H
GDRV ⟶ Data : 40H
BDRV ⟶ Data : 40H
4. Press the TV/VIDEO button on TV to display a single horizontal line on the screen.
5. Turn the SCREEN control (FBT) fully counterclockwise and gradually rotate clockwise until the first horizontal line appears slightly on the screen.
6. Press the TV/VIDEO button to display the normal picture.
7. Adjust the remaining two “?CUT” items (CHANNEL ▲/▼ → TV/VIDEO → VOLUME ▲/▼ in order) to obtain the slightly lighted horizontal line in the same levels of three (red, green, blue) colors. The line should be white if the adjustments are proper.
 
Bright area
Adjust "GDRV" or "BDRV" to be white.
Dark area
Fine adjust "RCUT", "GCUT" or "BCUT" to be black.</td></tr>
<tr><td>PIP SUB-BRIGHTNESS
(PBOF)</td><td rowspan="3">Adjust to match the PIP screen to the brightness, white balance and tint of the main picture.</td></tr>
<tr><td>PIP WHITE BALANCE
(PGOF, PROF)</td></tr>
<tr><td>PIP SUB-TINT
(PHUE)</td></tr>
</table>

MTS ADJUSTMENT (FOR N1N CHASSIS)

No.	ITEM	INPUT SIGNAL	ADJUSTMENT PROCEDURE
1	STEREO VCO (STVC)	• No signal	1. Display item **STVC**, and connect pin 9 of H002 to ground. 2. Connect frequency counter to pin 12 of H002. 3. Change data by Volume ▲/▼ buttons so that the reading of counter becomes value as close as 4fH (62.936kHz).
2	SAP VCO (SAVC)	• 78.670kHz 147mVrms → pin 9 of H002 • Monaural signal → ANT	1. Display item SAVC. 2. Change data by Volume ▲/▼ buttons so that the data becomes in the center of range for STA7=0 and STA8=1. SAVC 88H STA7:0 STA8:1
3	STEREO FILTER (STRF)	• 9.4kHz 600mVrm → pin 9 of H002 Monaural signal → ANT	1. Display item **STRF** on screen. 2. Change data by Volume ▲/▼ buttons so that the data becomes in the center of range for STA3=1. STRF 16H STA3:1
4	SAP FILTER (SAPF)	• 88kHz 110mVrms → pin 9 of H002 • Monaural signal → ANT	1. Display item **SAPF**. 2. Change data by Volume ▲/▼ buttons so that the data becomes in the center of range for STA4=1. SAPF 98H STA4:1
5	ATTENUATOR (ATT)	• 1kHz 30% mod. → ANT terminal	1. Connect rms meter to pin 12 of H002. 2. Display item **ATT** on screen. 3. Change data by Volume ▲/▼ buttons so that output at pin 12 of H002 becomes value as close as 130mVrms.
6	STEREO SEPARATION (WBAN)	• STEREO 300Hz R-channel only → ANT	1. Select “STEREO” mode from the MTS function in the Audio menu. 2. Display item **WBAN** on screen. 3. Connect oscilloscope to pin 14 of H002. 4. Change data by Volume ▲/▼ buttons so that 300Hz element on scope becomes minimum.
	(SPEC)	• STEREO 3kHz R-channel only → ANT	5. Display item **SPEC** on screen. 6. Change data by Volume ▲/▼ buttons so that 3kHz element on scope becomes minimum.

MTS ADJUSTMENT (FOR N0ES CHASSIS)

No.	ITEM	INPUT SIGNAL	ADJUSTMENT PROCEDURE
1	ATTENUATOR (ATT)	• 1kHz 30% mod. → ANT terminal	1. Connect rms meter to pin 34 of QG01. 2. Display item **ATT** on screen. 3. Change data by VOLUME ▲/▼ buttons so that the reading of meter becomes value as close as 137mVrms.
2	STEREO VCO (STVC)	• No signal	1. Short circuit RG44 with a jumper wire. 2. Display item **STVC** on screen. 3. Connect frequency counter to pin 34 of QG01. 4. Change data by VOLUME ▲/▼ buttons so that the reading of counter becomes value as close as 15.73kHz.
3	STEREO FILTER (STRF)	• 15.734kHz 30mV(rms) 	1. Unsolder the solder link SL02. 2. Display item **STRF** on screen. 3. Connect oscilloscope to pin 34 of QG01. 4. Change data by VOLUME ▲/▼ button to minimize AC output level on scope. 5. Resolder SL02.
4	STEREO SEPARATION (WBAN)	• STEREO 300Hz R-channel only → ANT	1. Display item **WBAN** on screen. 2. Connect oscilloscope to pin 35 of QG01. 3. Change data by VOLUME ▲/▼ buttons so that 300Hz element on scope becomes minimum.
	(SPEC)	• STEREO 3kHz R-channel only → ANT	4. Display item **SPEC** on screen. 5. Change data by Volume ▲/▼ buttons so that 3kHz element on scope becomes minimum.
5	SAP VCO (SAVC)	• No signal 	1. Shortcircuit RG44 with a short jumper. 2. Connect 1Mohm resistor between pin 12 of QG01 and ground. 3. Display item **SAVC** on screen. 4. Connect frequency counter to pin 34 of QG01. 5. Change data by VOLUME ▲/▼ buttons so that the reading of counter becomes value as close as 78.67kHz. 6. Remove the short jumper and 1M ohm resistor.

CIRCUIT CHECKS

HIGH VOLTAGE CHECK

CAUTION: There is no HIGH VOLTAGE ADJUSTMENT on this chassis. Checking should be done following the steps below.

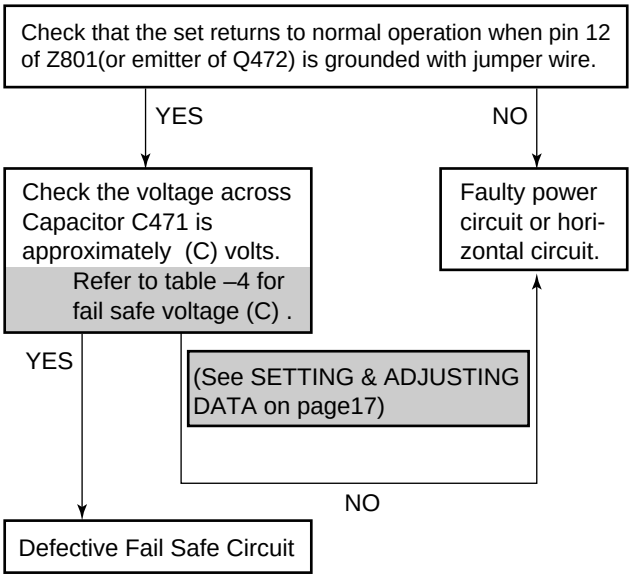
1. Connect an accurate high voltage meter to the second anode of the picture tube.
2. Turn on the receiver. Set the BRIGHTNESS and CONTRAST controls to minimum (zero beam current).
3. High voltage must be measured below (B) kV.
   Refer to table-1 for high voltage (B).
   (See SETTING & ADJUSTING DATA on page 17)
4. Vary the BRIGHTNESS control to both extremes to be sure the high voltage does not exceed the limit under any conditions.

FS CIRCUIT CHECK

The Fail Safe (FS) circuit check is indispensable for the final check in servicing. Checking should be done following the steps below.

1. Turn the receiver on and press the RESET button.
2. Temporarily short TP-(R) and TP-(X) with a jumper wire. Raster and sound will disappear.
3. The receiver must remain in this state even after removing the jumper wire. This is the evidence that the FS circuit is functioning properly.
4. To obtain a picture again, temporarily turn the receiver off and allow the FS circuit more than 5 seconds to reset. Then turn the power switch on to produce a normal picture.

Troubleshooting Guide for Fail Safe Circuit


Check that the set returns to normal operation when pin 12 of Z801(or emitter of Q472) is grounded with jumper wire.
YES
NO
Check the voltage across Capacitor C471 is approximately (C) volts.
Refer to table –4 for fail safe voltage (C) .
Faulty power circuit or horizontal circuit.
YES
(See SETTING & ADJUSTING DATA on page17)
NO
Defective Fail Safe Circuit

CHAPTER 2 SPECIFIC INFORMATIONS

SETTING & ADJUSTING DATA

【SAFETY INSTRUCTIONS】

		36"
HIGH VOLTAGE AT ZERO BEAM:	(A)	31.9kV
MAX HIGH VOLTAGE:	(B)	33.3kV

Table-1

【SERVICE MODE】

ADJUSTING ITEMS AND DATAS IN THE SERVICE MODE:

Item	Name of adjustment	Preset	36"
RCUT	R CUTOFF	40H	←
GCUT	G CUTOFF	40H	←
BCUT	B CUTOFF	40H	←
GDRV	G DRIVE	40H	←
BDRV	B DRIVE	40H	←
SCNT	SUB-CONTRAST	0AH	←
BRTC	SUB-BRIGHT	40H	←
COLC	SUB-COLOR	3AH	←
TNTC	SUB-TINT	44H	←
SAVC	SAP VCO	20H	←
ATT	ATTENUATOR	20H	←
STVC	STEREO VCO	20H	←
STRF	STEREO FILTER	20H	←
SPEC	SPECTRAL	20H	←
WBAN	STEREO SEPARATION	20H	←
HPOS	HORIZ. POSITION	16H	←
VPOS	VERT. POSITION	03H	←

Item	Name of adjustment	Preset	36"
HIT	HEIGHT	26H	←
LIN	V-LINEARITY	07H	←
VSC	V-S CORRECTION	02H	←
VPS	V-SHIFT	01H	←
VCP	V-COMPENSATION	03H	←
WID	PICTURE WIDTH	35H	←
DPC	E-W PARABOLA (DPC)	17H	←
CNR	E-W CORNER	09H	←
TRAP	TRAPEZIUM	08H	←
HCP	H-COMPENSATION	00H	←
VFC	V-F CORRECTION	0FH	←
PCOL	PIP COLOR	0FH	←
PHUE	PIP TINT	11H	←
PGOF	PIP	36H	←
PROF	PIP	17H	←
PBOF	PIP	17H	←
RGBB	RGB BRIGHT	0BH	←

Table-2

【DESIGN MODE】

ADJUSTING ITEMS AND DATAS IN THE DESIGN MODE:

Item	Name of adjustment	Preset Data	Data	Remarks
OPT0	OPTION 0	20H	20H	
OPT1	OPTION 1	84H	84H	
OPT2	OPTION 2	01H	01H	

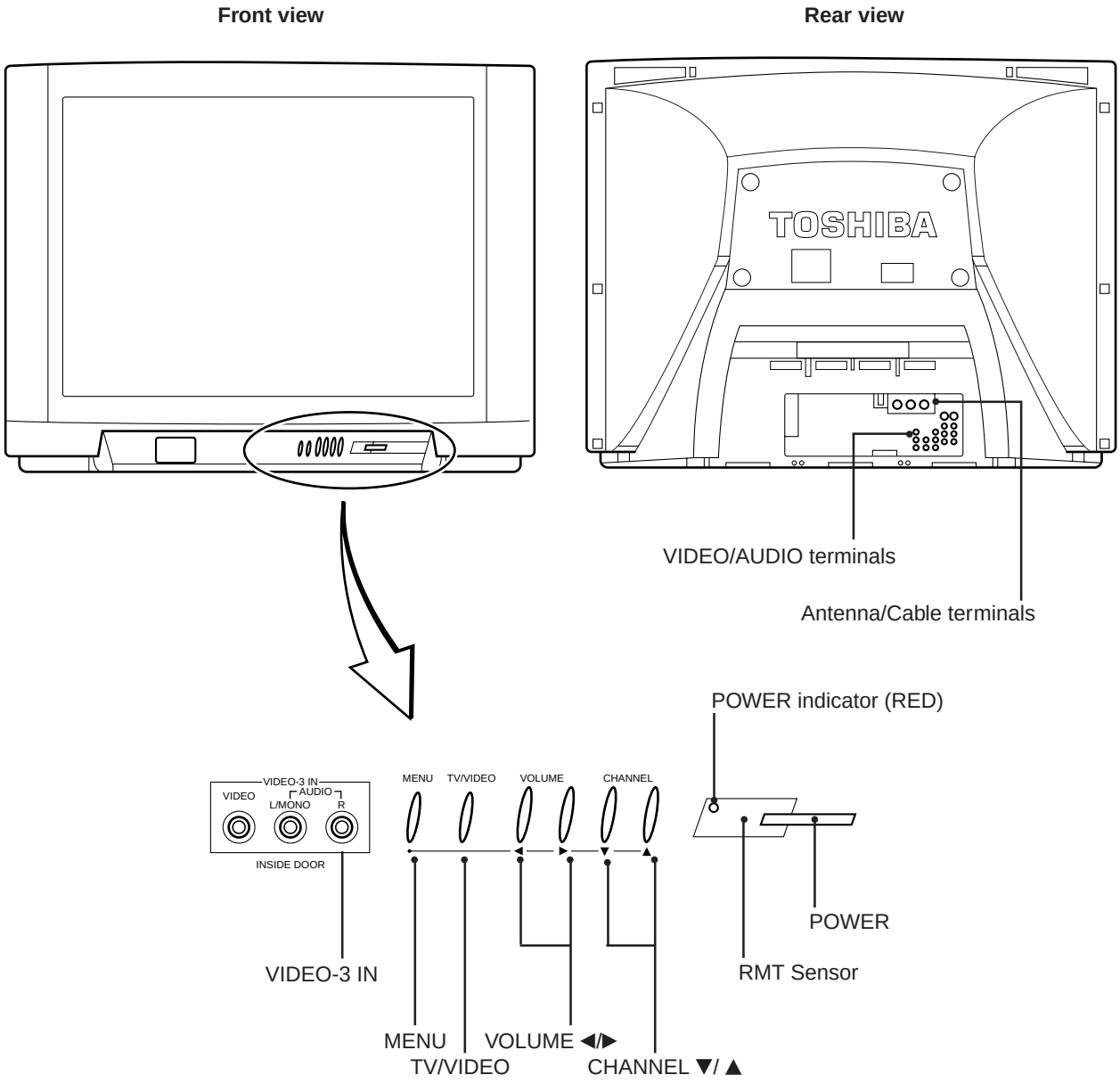
Table-3

【CIRCUIT CHECKS】

		36"
FBT DETECTION VOLTAGE	(C)	22.77V

Table-4

LOCATION OF CONTROLS



Remote Control

Power turns the TV on or off

SLEEP sets the TV to turn at a specific time

LIGHT The initial press of the LIGHT button causes two actions:

Channel Numbers (0–9, 100) allow direct access to channels

MODE cycles through the 6 device modes

FAVOURITE allows access to Multi-Window function

INFO allows access to Multi-Window function

MENU allows access to programming

ENTER sets programming menu information

▲▼◄► selects or adjusts programming menus

[FAV] ◄► selects your favourite channels

Volume ▲▼ adjusts the volume level

EXIT exits programming menus

Channel ▲▼ cycles through programmed channels

CH RTN returns to the last viewed channels

RECALL displays on-screen information

MUTE mutes the sound

INPUT selects video input source

PIP allows access to PIP functions

PIP turns the PIP on or off

PIP CH ▲▼ selects the PIP channels

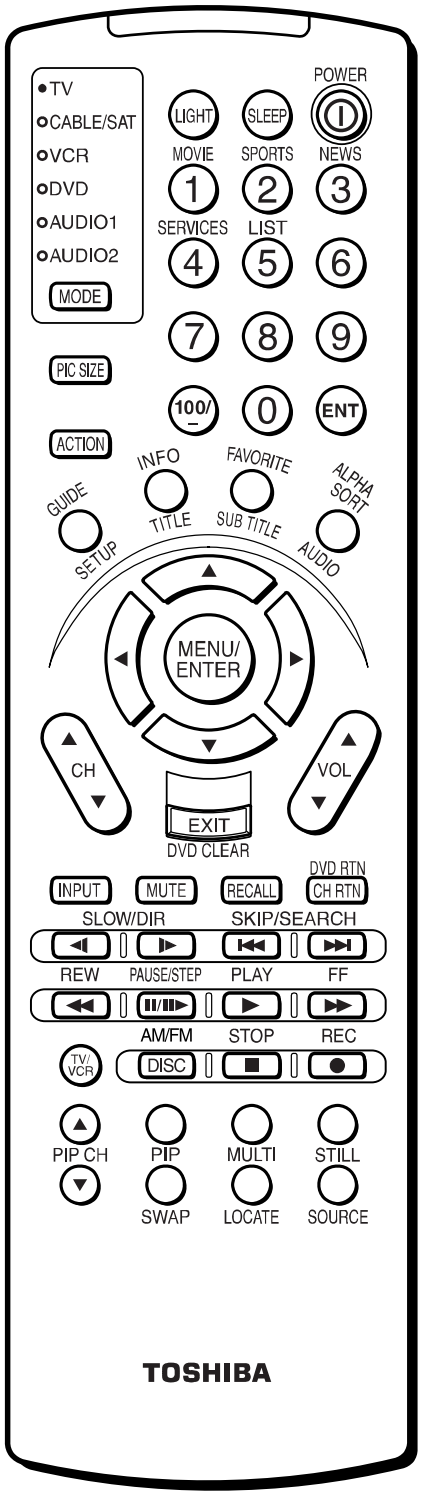
MULTI allows access to Multi-Windows function

STILL freezes the PIP

SOURCE selects the PIP source

LOCATE moves the PIP

SWAP switches the PIP and main pictures



PROGRAMMING CHANNEL MEMORY

The channel memory is the list of TV channel numbers your TV will stop on when you press the CHANNEL ▲ or ▼ button.
First, use the TV/CABLE and CH PROGRAM functions to preset all active channels in your area automatically.
If necessary, arrange the preset channels with the ADD/ERASE functions so that you can tune into only desired channels.
Note: If you utilize both ANT-1 and ANT-2 terminals for some model, perform programming channels for each input source.

TV/CABLE function

1. Press **MENU**, then press ► or ◄ until the SET UP menu appears.
2. Press ▼ (or ▲) until “TV/CABLE” is highlighted.
3. Press ► or ◄ to highlight either “TV” or “CABLE”, whichever you use.

CH PROGRAM function

1. Select “CH PROGRAM” following steps 1 and 2 above.
2. Press ► or ◄ to start channel programming.
   The TV will automatically cycle through all the TV or CABLE channels selected by the TV/CABLE function, and store active channels in the channel memory.
3. When channel programming is complete, you will see the message to the right appears.
4. Press **CHANNEL** ▲ or ▼ to make sure the channel programming has been done properly.

ADD/ERASE function

After performing the CH PROGRAM function, you can add or erase specific channels.

1. Select the channel you want to erase using the **CHANNEL** ▲ or ▼ button, or select the channel you want to add using the **Channel Number** buttons.
2. Press **MENU**, then press ► or ◄ until the SET UP menu appears.
3. Press ▼ (or ▲) until “ADD/ERASE” is highlighted.
4. Press ► or ◄ :
   To erase the channel
   Press the button until “ERASE” is highlighted.

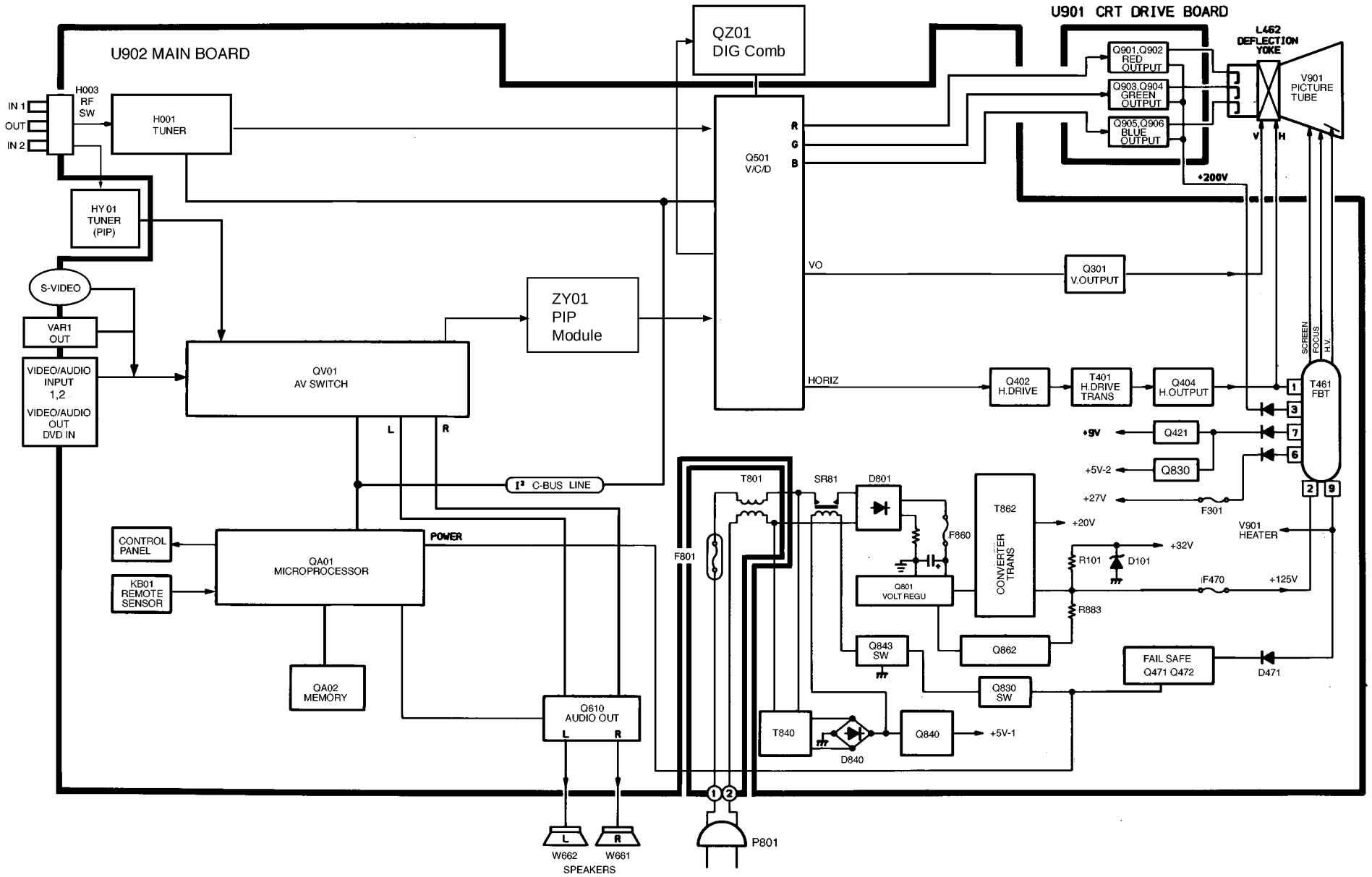
   To add the channel
   Press the button until “ADD” is highlighted.
5. Repeat steps 1 to 4 for other channels.

You have now completed the channel programming.

Note: The CHANNEL ▼/▲ buttons on the TV function as the ▼/▲ buttons while a menu is on the screen.

*Please refer to owner's manual in detil.

CIRCUIT BLOCK DIAGRAM



CHASSIS AND CABINET REPLACEMENT PARTS LIST

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 3 OF THIS MANUAL.

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE. Do not degrade the safety of the receiver through improper servicing.

NOTICE:

- *The part number must be used when ordering parts, in order to assist in processing, be sure to include the Model number and Description.*
- *The PC board assembly with ∗ mark is no longer available after the end of the production.*

Model : 36AX61

Capacitors	CD	:	Ceramic Disk	PF	:	Plastic Film	EL	: Electrolytic
Resistors	CF	:	Carbon Film	CC	:	Carbon Composition	MF	: Metal Film
	OMF	:	Oxide Metal Film	VR	:	Variable Resistor	FR	: Fusible Resistor

(All CD and PF capacitors are ±5%, 50V and all resistors, ±5%, 1/6W unless otherwise noted.)

Location No.	Part No.	Description
CAPACITORS		
C102	24793221	EL, 220μF, ±20%, 10V
C105	24212102	CD, 1000pF, ±10%
C106	24797479	EL, 4.7μF, ±20%, 50V
C107	24763221	EL, 220μF, ±20%, 16V
C110	24794470	EL, 47μF, ±20%, 16V
C112	24793221	EL, 220μF, ±20%, 10V
C115	24212102	CD, 1000pF, ±10%
C117	24763221	EL, 220μF, ±20%, 16V
C150	24794330	EL, 33μF, ±20%, 16V
C201	24503041	PF, 0.1μF, 63V
C204	24797010	EL, 1μF, ±20%, 50V
C205	24794100	EL, 10μF, ±20%, 16V
C207	24436270	CD, 27pF
C208	24436270	CD, 27pF
C209	24436270	CD, 27pF
C216	24797100	EL, 10μF, ±20%, 50V
C221	24232103	CD, 0.01μF, +80%, -20%
C222	24232103	CD, 0.01μF, +80%, -20%
C223	24232103	CD, 0.01μF, +80%, -20%
C224	24503041	PF, 0.1μF, 63V
C225	24503041	PF, 0.1μF, 63V
C226	24503041	PF, 0.1μF, 63V
C245	24206108	EL, 0.1μF, ±20%, 50V
C261	24503041	PF, 0.1μF, 63V
C262	24503041	PF, 0.1μF, 63V
C263	24503041	PF, 0.1μF, 63V
C301	24435820	CD, 82pF, 500V
C304	24693473	PF, 0.047μF, 100V
C305	24617915	EL, 1μF, ±10%, 50V
C306	24073059	EL, 3300μF, ±20%, 25V
C308	24668221	EL, 220μF, ±20%, 35V
C309	24591102	PF, 1000pF
C310	24796102	EL, 1000μF, ±20%, 35V
C312	24503041	PF, 0.1μF, 63V
C313	24082057	PF, 0.22μF, 100V
C317	24214471	CD, 470pF, ±10%, 500V
C319	24212102	CD, 1000pF, ±10%
C320	24668101	EL, 100μF, ±20%, 35V
C323	24567474	PF, 0.47μF
C325	24567683	PF, 0.068μF

Location No.	Part No.	Description
C326	24503041	PF, 0.1μF, 63V
C327	24617915	EL, 1μF, ±10%, 50V
C337	24797229	EL, 2.2μF, ±20%, 50V
C360	24793221	EL, 220μF, ±20%, 10V
C361	24794101	EL, 100μF, ±20%, 16V
C366	24693154	PF, 0.15μF, 100V
C370	24668101	EL, 100μF, ±20%, 35V
C371	24668100	EL, 10μF, ±20%, 35V
C391	24666100	EL, 10μF, ±20%, 16V
C393	24666100	EL, 10μF, ±20%, 16V
C396	24082825	PF, 1800pF, ±3%, 1800V
C399	24085981	EL, 10μF, ±20%, 16V, Non-Polar
C403	24591103	PF, 0.01μF
C404	24797010	EL, 1μF, ±20%, 50V
C407	24503041	PF, 0.1μF, 63V
C409	24763221	EL, 220μF, ±20%, 16V
C410	24232103	CD, 0.01μF, +80%, -20%
C413	24214821	CD, 820pF, ±10%, 500V
C415	24567273	PF, 0.027μF
C416	24678010	EL, 1μF, ±20%, 200V
C417	24214391	CD, 390pF, ±10%, 500V
C419	24539474	PF, 0.47μF
C421	24794101	EL, 100μF, ±20%, 16V
C430	24232103	CD, 0.01μF, +80%, -20%
C431	24794101	EL, 100μF, ±20%, 16V
C439	24829753	PF, 0.075μF, 400V
⚠ C440	24082959	PF, 8000pF, ±3%, 1500V
⚠ C442	24082921	PF, 0.43μF, 315V
⚠ C444	24082610	PF, 5600pF, ±3%, 1800V
C445	24828563	PF, 0.056μF, 200V
C446	24679100	EL, 10μF, ±20%, 250V
C448	24640908	EL, 33μF, ±20%, 160V
C449	24666102	EL, 1000μF, ±20%, 16V
C457	24591222	PF, 2200pF
C463	24212152	CD, 1500pF, ±10%
C464	24640872	EL, 10μF, ±20%, 100V
C466	24206108	EL, 0.1μF, ±20%, 50V
⚠ C467	24095883	PF, 0.015μF, ±3%, 630V
C471	24797479	EL, 4.7μF, ±20%, 50V
C474	24794100	EL, 10μF, ±20%, 16V

Location No.	Part No.	Description
C477	24503041	PF, 0.1μF, 63V
C480	24747220	EL, 22μF, ±20%, 50V
C481	24503049	PF, 0.22μF, 63V
C482	24797478	EL, 0.47μF, ±20%, 50V
C499	24212102	CD, 1000pF, ±10%
C501	24436102	CD, 1000pF
C504	24591222	PF, 2200pF
C505	24353120	CD, 12pF, CH
C510	24763101	EL, 100μF, ±20%, 16V
C511	24232103	CD, 0.01μF, +80%, -20%
C512	24206228	EL, 0.22μF, ±20%, 50V
C582	24232103	CD, 0.01μF, +80%, -20%
C583	24762471	EL, 470μF, ±20%, 10V
C612	24794470	EL, 47μF, ±20%, 16V
C613	24232103	CD, 0.01μF, +80%, -20%
C661	24212102	CD, 1000pF, ±10%
C662	24212102	CD, 1000pF, ±10%
C663	24666100	EL, 10μF, ±20%, 16V
C671	24795470	EL, 47μF, ±20%, 25V
C672	24795470	EL, 47μF, ±20%, 25V
C673	24669229	EL, 2.2μF, ±20%, 50V
C674	24669229	EL, 2.2μF, ±20%, 50V
C675	24669229	EL, 2.2μF, ±20%, 50V
C676	24503041	PF, 0.1μF, 63V
C677	24503041	PF, 0.1μF, 63V
C678	24669229	EL, 2.2μF, ±20%, 50V
C679	24795470	EL, 47μF, ±20%, 25V
C681	24667102	EL, 1000μF, ±20%, 25V
C682	24668101	EL, 100μF, ±20%, 35V
C683	24667102	EL, 1000μF, ±20%, 25V
C704	24232103	CD, 0.01μF, +80%, -20%
C705	24232103	CD, 0.01μF, +80%, -20%
C707	24794101	EL, 100μF, ±20%, 16V
C713	24709100	EL, 10μF, ±20%, 200V
C714	24436101	CD, 100pF
C715	24214472	CD, 4700pF, ±10%, 500V
C716	24436101	CD, 100pF
C717	24214472	CD, 4700pF, ±10%, 500V
C718	24794470	EL, 47μF, ±20%, 16V
C719	24435560	CD, 56pF, 500V
C720	24709100	EL, 10μF, ±20%, 200V
C721	24794470	EL, 47μF, ±20%, 16V
C726	24212102	CD, 1000pF, ±10%
C801	24503002	PF, 0.22μF, ±20%, AC275V
C802	24503001	PF, 0.1μF
C805	24092623	CD, 0.01μF, +80%, -20%, AC250V
C806	24092623	CD, 0.01μF, +80%, -20%, AC250V
C808	24667221	EL, 220μF, ±20%, 25V
C810	24086061	EL, 470μF, ±20%, 200V
C811	24092597	CD, 4700pF, ±20%, AC250V
C812	24092597	CD, 4700pF, ±20%, AC250V
C813	24092597	CD, 4700pF, ±20%, AC250V
C815	24092597	CD, 4700pF, ±20%, AC250V
C816	24092597	CD, 4700pF, ±20%, AC250V
C817	24092339	CD, 330pF, ±10%, 2kV
C818	24082402	PF, 2200pF, ±3%, 1250V
C821	24214471	CD, 470pF, ±10%, 500V
C822	24503041	PF, 0.1μF, 63V
C823	24212471	CD, 470pF, ±10%
C829	24591102	PF, 1000pF
C832	24794470	EL, 47μF, ±20%, 16V
C840	24795221	EL, 220μF, ±20%, 25V

Location No.	Part No.	Description
C842	24792101	EL, 100μF, ±20%, 6.3V
C843	24797479	EL, 4.7μF, ±20%, 50V
C884	24086049	EL, 330μF, ±20%, 160V
C885	24214471	CD, 470pF, ±10%, 500V
C889	24796222	EL, 2200μF, ±20%, 35V
C891	24503041	PF, 0.1μF, 63V
C893	24092339	CD, 330pF, ±10%, 2kV
C898	24539224	PF, 0.22μF
C902	24092345	CD, 1000pF, ±10%, 2kV
C904	24436391	CD, 390pF
C905	24436391	CD, 390pF
C907	24436391	CD, 390pF
C909	24679220	EL, 22μF, ±20%, 250V
C910	24797478	EL, 0.47μF, ±20%, 50V
C911	24203100	EL, 10μF, ±20%, 16V
C912	24794471	EL, 470μF, ±20%, 16V
C913	24794100	EL, 10μF, ±20%, 16V
C914	24212103	CD, 0.01μF, ±10%
C920	24232103	CD, 0.01μF, +80%, -20%
C921	24232103	CD, 0.01μF, +80%, -20%
C930	24214101	CD, 100pF, ±10%, 500V
C3440	24082395	PF, 1100pF, ±3%, 1250V
CA13	24212101	CD, 100pF, ±10%
CA28	24503041	PF, 0.1μF, 63V
CA33	24232103	CD, 0.01μF, +80%, -20%
CA36	24212101	CD, 100pF, ±10%
CA37	24212101	CD, 100pF, ±10%
CA38	24212101	CD, 100pF, ±10%
CA42	24794100	EL, 10μF, ±20%, 16V
CA43	24232103	CD, 0.01μF, +80%, -20%
CA44	24232103	CD, 0.01μF, +80%, -20%
CA68	24794100	EL, 10μF, ±20%, 16V
CA69	24232103	CD, 0.01μF, +80%, -20%
CB01	24797470	EL, 47μF, ±20%, 50V
CB41	24763221	EL, 220μF, ±20%, 16V
CB48	24436101	CD, 100pF
CD80	24794100	EL, 10μF, ±20%, 16V
CG02	24203220	EL, 22μF, ±20%, 16V
CG03	24503041	PF, 0.1μF, 63V
CG05	24797010	EL, 1μF, ±20%, 50V
CG06	24797479	EL, 4.7μF, ±20%, 50V
CG07	24206479	EL, 4.7μF, ±20%, 50V
CG08	24591473	PF, 0.047μF
CG09	24797478	EL, 0.47μF, ±20%, 50V
CG10	24503041	PF, 0.1μF, 63V
CG12	24206108	EL, 0.1μF, ±20%, 50V
CG14	24797010	EL, 1μF, ±20%, 50V
CG16	24704106	Tantalum, 10μF, ±20%, 16V
CG17	24797010	EL, 1μF, ±20%, 50V
CG18	24797010	EL, 1μF, ±20%, 50V
CG19	24797479	EL, 4.7μF, ±20%, 50V
CG20	24797010	EL, 1μF, ±20%, 50V
CG25	24797479	EL, 4.7μF, ±20%, 50V
CG26	24797479	EL, 4.7μF, ±20%, 50V
CG27	24591223	PF, 0.022μF
CG28	24797229	EL, 2.2μF, ±20%, 50V
CG29	24591102	PF, 1000pF
CG30	24206108	EL, 0.1μF, ±20%, 50V
CG31	24797229	EL, 2.2μF, ±20%, 50V
CG32	24591102	PF, 1000pF
CG33	24206108	EL, 0.1μF, ±20%, 50V
CG37	24205479	EL, 4.7μF, ±20%, 35V
CG38	24205479	EL, 4.7μF, ±20%, 35V
CG42	24206010	EL, 1μF, ±20%, 50V

Location No.	Part No.	Description
CG44	24203100	EL, 10μF, ±20%, 16V
CG46	24203101	EL, 100μF, ±20%, 16V
CG60	24797220	EL, 22μF, ±20%, 50V
CG61	24797220	EL, 22μF, ±20%, 50V
CG62	24797229	EL, 2.2μF, ±20%, 50V
CG63	24797010	EL, 1μF, ±20%, 50V
CG65	24232103	CD, 0.01μF, +80%, -20%
CG66	24794470	EL, 47μF, ±20%, 16V
CG67	24085981	EL, 10μF, ±20%, 16V, Non-Polar
CG68	24794100	EL, 10μF, ±20%, 16V
CG69	24797479	EL, 4.7μF, ±20%, 50V
CG70	24794100	EL, 10μF, ±20%, 16V
CG71	24794100	EL, 10μF, ±20%, 16V
CG72	24794221	EL, 220μF, ±20%, 16V
CM51	24503041	PF, 0.1μF, 63V
CM58	24503041	PF, 0.1μF, 63V
CR01	24503041	PF, 0.1μF, 63V
CR02	24503041	PF, 0.1μF, 63V
CR03	24503041	PF, 0.1μF, 63V
CS02	24797229	EL, 2.2μF, ±20%, 50V
CS04	24797229	EL, 2.2μF, ±20%, 50V
CS08	24797229	EL, 2.2μF, ±20%, 50V
CS10	24797229	EL, 2.2μF, ±20%, 50V
CS14	24797229	EL, 2.2μF, ±20%, 50V
CS16	24797229	EL, 2.2μF, ±20%, 50V
CS25	24797229	EL, 2.2μF, ±20%, 50V
CS26	24797229	EL, 2.2μF, ±20%, 50V
CS37	24205479	EL, 4.7μF, ±20%, 35V
CS39	24206479	EL, 4.7μF, ±20%, 50V
CS40	24797010	EL, 1μF, ±20%, 50V
CS42	24797010	EL, 1μF, ±20%, 50V
CS43	24436331	CD, 330pF
CS44	24436331	CD, 330pF
CS45	24436331	CD, 330pF
CS46	24436331	CD, 330pF
CS47	24436331	CD, 330pF
CS48	24436331	CD, 330pF
CS49	24436331	CD, 330pF
CS50	24436331	CD, 330pF
CS51	24212102	CD, 1000pF, ±10%
CS52	24212102	CD, 1000pF, ±10%
CS70	24794220	EL, 22μF, ±20%, 16V
CS71	24794220	EL, 22μF, ±20%, 16V
CS115	24206010	EL, 1μF, ±20%, 50V
CS116	24206010	EL, 1μF, ±20%, 50V
CS118	24794470	EL, 47μF, ±20%, 16V
CS119	24206010	EL, 1μF, ±20%, 50V
CS120	24206010	EL, 1μF, ±20%, 50V
CS121	24206010	EL, 1μF, ±20%, 50V
CS624	24794100	EL, 10μF, ±20%, 16V
CS625	24797229	EL, 2.2μF, ±20%, 50V
CS626	24797229	EL, 2.2μF, ±20%, 50V
CS627	24797229	EL, 2.2μF, ±20%, 50V
CS628	24797229	EL, 2.2μF, ±20%, 50V
CS630	24794101	EL, 100μF, ±20%, 16V
CV03	24206108	EL, 0.1μF, ±20%, 50V
CV05	24232103	CD, 0.01μF, +80%, -20%
CV09	24503041	PF, 0.1μF, 63V
CV13	24206108	EL, 0.1μF, ±20%, 50V
CV15	24232103	CD, 0.01μF, +80%, -20%
CV24	24591473	PF, 0.047μF
CV25	24794220	EL, 22μF, ±20%, 16V
CV27	24206108	EL, 0.1μF, ±20%, 50V

Location No.	Part No.	Description
CV29	24232103	CD, 0.01μF, +80%, -20%
CV31	24503041	PF, 0.1μF, 63V
CV38	24763471	EL, 470μF, ±20%, 16V
CV39	24232103	CD, 0.01μF, +80%, -20%
CV41	24591223	PF, 0.022μF
CV45	24232103	CD, 0.01μF, +80%, -20%
CV46	24794101	EL, 100μF, ±20%, 16V
CV47	24794100	EL, 10μF, ±20%, 16V
CV48	24232103	CD, 0.01μF, +80%, -20%
CV49	24794100	EL, 10μF, ±20%, 16V
CV60	24794101	EL, 100μF, ±20%, 16V
CV61	24762471	EL, 470μF, ±20%, 10V
CZ03	24092743	Chip, 0.47μF, +80%, -20%, 10V
CZ05	24109103	Chip, 0.01μF, ±10%
CZ07	24092730	Chip, 0.1μF, ±10%, 16V
CZ09	24105220	Chip, 22pF
CZ10	24105100	Chip, 10pF, ±0.5pF
CZ11	24105220	Chip, 22pF
CZ12	24109103	Chip, 0.01μF, ±10%
CZ13	24109103	Chip, 0.01μF, ±10%
CZ14	24203100	EL, 10μF, ±20%, 16V
CZ17	24109103	Chip, 0.01μF, ±10%
CZ19	24105181	Chip, 180pF
CZ20	24109103	Chip, 0.01μF, ±10%
CZ21	24109122	Chip, 1200pF, ±10%
CZ22	24203100	EL, 10μF, ±20%, 16V
CZ23	24109103	Chip, 0.01μF, ±10%
CZ24	24109103	Chip, 0.01μF, ±10%
CZ25	24203100	EL, 10μF, ±20%, 16V
CZ26	24109103	Chip, 0.01μF, ±10%
CZ28	24109103	Chip, 0.01μF, ±10%
CZ29	24109103	Chip, 0.01μF, ±10%
CZ30	24203100	EL, 10μF, ±20%, 16V
CZ31	24092730	Chip, 0.1μF, ±10%, 16V
CZ32	24105150	Chip, 15pF
CZ33	24105390	Chip, 39pF
CZ34	24105150	Chip, 15pF
CZ35	24105390	Chip, 39pF
CZ37	24203100	EL, 10μF, ±20%, 16V
CZ38	24203100	EL, 10μF, ±20%, 16V
CZ41	24105470	Chip, 47pF
CZ42	24105470	Chip, 47pF
CZ45	24105100	Chip, 10pF, ±0.5pF

RESISTORS

R101	24382223	OMF, 22k ohm, 1W
R151	24366562	CF, 5600 ohm
R152	24366103	CF, 10k ohm
R201	24366102	CF, 1k ohm
R202	24366102	CF, 1k ohm
R203	24366474	CF, 470k ohm
R205	24366101	CF, 100 ohm
R206	24366102	CF, 1k ohm
R207	24366101	CF, 100 ohm
R208	24366101	CF, 100 ohm
R209	24366101	CF, 100 ohm
R216	24366223	CF, 22k ohm
R223	24366102	CF, 1k ohm
R228	24366473	CF, 47k ohm
R238	24366473	CF, 47k ohm
R239	24366274	CF, 270k ohm
R240	24366562	CF, 5600 ohm
R241	24366682	CF, 6800 ohm

Location No.	Part No.	Description
R245	24366104	CF, 100k ohm
R261	24366472	CF, 4700 ohm
R262	24366102	CF, 1k ohm
R263	24366472	CF, 4700 ohm
R264	24366102	CF, 1k ohm
R265	24366472	CF, 4700 ohm
R266	24366102	CF, 1k ohm
R271	24366101	CF, 100 ohm
R272	24366222	CF, 2200 ohm
R275	24366103	CF, 10k ohm
R303	24321109	MF, 1 ohm, 1/2W
R304	24366623	CF, 62k ohm
R305	24322828	MF, 0.82 ohm, 1W
R306	24366683	CF, 68k ohm
R307	24366684	CF, 680k ohm
R308	24553271	OMF, 270 ohm, 1W
R310	24366153	CF, 15k ohm
R311	24366392	CF, 3900 ohm
R313	24366104	CF, 100k ohm
R314	24366105	CF, 1M ohm
R315	24366824	CF, 820k ohm
R317	24366102	CF, 1k ohm
R323	24366102	CF, 1k ohm
R327	24339479	MF, 4.7 ohm, 2W
R328	24366684	CF, 680k ohm
R336	24383151	OMF, 150 ohm, 2W
R345	24383821	OMF, 820 ohm, 2W
R360	24366104	CF, 100k ohm
R361	24366473	CF, 47k ohm
R363	24366105	CF, 1M ohm
R364	24366103	CF, 10k ohm
R368	24545479	FR, 4.7 ohm, 1/4W
R369	24366391	CF, 390 ohm
R370	24321109	MF, 1 ohm, 1/2W
R371	24366103	CF, 10k ohm
R372	24366392	CF, 3900 ohm
R373	24366102	CF, 1k ohm
R374	24366163	CF, 16k ohm
R379	24382103	OMF, 10k ohm, 1W
R380	24946226	CC, 22M ohm, ±10%, 1/2W
R389	24366472	CF, 4700 ohm
R392	24552102	OMF, 1k ohm, 1/2W
R394	24366102	CF, 1k ohm
R396	24366103	CF, 10k ohm
R397	24366103	CF, 10k ohm
R398	24366184	CF, 180k ohm
R399	24366103	CF, 10k ohm
R401	24366391	CF, 390 ohm
R403	24366622	CF, 6200 ohm
R405	24382682	OMF, 6800 ohm, 1W
R406	24366104	CF, 100k ohm
R407	24366103	CF, 10k ohm
R408	24366472	CF, 4700 ohm
R410	24366271	CF, 270 ohm
R411	24366561	CF, 560 ohm
R415	24553272	OMF, 2700 ohm, 1W
R416	24510432	Cement, 4300 ohm, 5W
R418	24383181	OMF, 180 ohm, 2W
R424	24546279	FR, 2.7 ohm, 1/2W
R425	24366561	CF, 560 ohm
R430	24366102	CF, 1k ohm
R431	24366103	CF, 10k ohm
R432	24366202	CF, 2k ohm
R433	24366102	CF, 1k ohm

Location No.	Part No.	Description
R441	24532102	FR, 1k ohm, 1W
R448	24338478	MF, 0.47 ohm, 1W
R456	24366103	CF, 10k ohm
R457	24366104	CF, 100k ohm
R460	24366333	CF, 33k ohm
R461	24366393	CF, 39k ohm
R462	24366561	CF, 560 ohm
R463	24322479	MF, 4.7 ohm, 1W
R464	24366102	CF, 1k ohm
R465	24366682	CF, 6800 ohm
R466	24366103	CF, 10k ohm
R472	24382270	OMF, 27 ohm, 1W
R473	24366473	CF, 47k ohm
R474	24366184	CF, 180k ohm
⚠ R475	24366391	CF, 390 ohm
R476	24366823	CF, 82k ohm
R477	24366273	CF, 27k ohm
⚠ R478	24327133	MF, 13k ohm, ±1%, 1/4W
R480	24366223	CF, 22k ohm
R481	24366333	CF, 33k ohm
⚠ R482	24327472	MF, 4700 ohm, ±1%, 1/4W
R483	24366223	CF, 22k ohm
R484	24366154	CF, 150k ohm
R485	24988028	MF, 0.56 ohm, 1W
R486	24552820	OMF, 82 ohm, 1/2W
R487	24552301	OMF, 300 ohm, 1/2W
R488	24327183	MF, 18k ohm, ±1%, 1/4W
R489	24327183	MF, 18k ohm, ±1%, 1/4W
R490	24366102	CF, 1k ohm
R491	24366563	CF, 56k ohm
R493	24366102	CF, 1k ohm
R494	24366471	CF, 470 ohm
R495	24366560	CF, 56 ohm
R501	24366333	CF, 33k ohm
R502	24366101	CF, 100 ohm
R503	24366101	CF, 100 ohm
R511	24366102	CF, 1k ohm
R512	24366102	CF, 1k ohm
R612	24366103	CF, 10k ohm
R613	24366222	CF, 2200 ohm
R614	24366102	CF, 1k ohm
R661	24366182	CF, 1800 ohm
R662	24366182	CF, 1800 ohm
R663	24366103	CF, 10k ohm
R664	24366103	CF, 10k ohm
R667	24366223	CF, 22k ohm
R668	24366103	CF, 10k ohm
R669	24366103	CF, 10k ohm
R674	24366153	CF, 15k ohm
R676	24366229	CF, 2.2 ohm
R677	24366229	CF, 2.2 ohm
R678	24366153	CF, 15k ohm
R702	24366122	CF, 1200 ohm
R709	24366563	CF, 56k ohm
R713	24366393	CF, 39k ohm
R714	24552121	OMF, 120 ohm, 1/2W
R715	24366563	CF, 56k ohm
R716	24366273	CF, 27k ohm
R717	24366333	CF, 33k ohm
R718	24366101	CF, 100 ohm
R719	24366392	CF, 3900 ohm
R720	24366392	CF, 3900 ohm
R722	24366102	CF, 1k ohm
R723	24366471	CF, 470 ohm

Location No.	Part No.	Description
R724	24366331	CF, 330 ohm
R725	24366182	CF, 1800 ohm
R730	24552100	OMF, 10 ohm, 1/2W
R731	24552331	OMF, 330 ohm, 1/2W
R732	24366820	CF, 82 ohm
R733	24366683	CF, 68k ohm
R734	24366820	CF, 82 ohm
R735	24366683	CF, 68k ohm
R736	24366620	CF, 62 ohm
R737	24366152	CF, 1500 ohm
R738	24366102	CF, 1k ohm
R739	24366152	CF, 1500 ohm
R740	24366620	CF, 62 ohm
R741	24366279	CF, 2.7 ohm
R742	24366279	CF, 2.7 ohm
R743	24554221	OMF, 220 ohm, 2W
R744	24366122	CF, 1200 ohm
R745	24366122	CF, 1200 ohm
R808	24019477	PTC Thermistor, 1.5 ohm, AC140V
R810	24569828	Cement, 0.82 ohm, ±10%, 10W
R814	24366103	CF, 10k ohm
R815	24552332	OMF, 3300 ohm, 1/2W
R818	24323479	MF, 4.7 ohm, 2W
R820	24322208	MF, 0.2 ohm, 1W
R821	24552470	OMF, 47 ohm, 1/2W
R823	24366152	CF, 1500 ohm
R829	24004945	MF, 0.18 ohm, 1W
R830	24548569	FR, 5.6 ohm, 2W
R831	24366561	CF, 560 ohm
R835	24552681	OMF, 680 ohm, 1/2W
R861	24553153	OMF, 15k ohm, 1W
R883	24552471	OMF, 470 ohm, 1/2W
R884	24366471	CF, 470 ohm
R885	24366102	CF, 1k ohm
R888	24321228	MF, 0.22 ohm, 1/2W
R891	24366102	CF, 1k ohm
R898	24002000	CC, 3.9M ohm, ±10%, 1/2W
R901	24552102	OMF, 1k ohm, 1/2W
R902	24552102	OMF, 1k ohm, 1/2W
R903	24552102	OMF, 1k ohm, 1/2W
R904	24366103	CF, 10k ohm
R905	24366101	CF, 100 ohm
R914	24366561	CF, 560 ohm
R915	24366181	CF, 180 ohm
R916	24366101	CF, 100 ohm
R917	24366102	CF, 1k ohm
R918	24366820	CF, 82 ohm
R920	24000961	FR, 2.2 ohm, 2W
R921	24366561	CF, 560 ohm
R922	24366181	CF, 180 ohm
R924	24366820	CF, 82 ohm
R925	24366102	CF, 1k ohm
R928	24366561	CF, 560 ohm
R929	24366181	CF, 180 ohm
R930	24366820	CF, 82 ohm
R932	24366272	CF, 2700 ohm
R933	24366750	CF, 75 ohm
R934	24366391	CF, 390 ohm
R935	24366821	CF, 820 ohm
R936	24366750	CF, 75 ohm
R937	24366102	CF, 1k ohm
R939	24366101	CF, 100 ohm

Location No.	Part No.	Description
R942	24366562	CF, 5600 ohm
R943	24366562	CF, 5600 ohm
R944	24366562	CF, 5600 ohm
R945	24366101	CF, 100 ohm
R946	24366101	CF, 100 ohm
R960	24383153	OMF, 15k ohm, 2W
R961	24383153	OMF, 15k ohm, 2W
R962	24383153	OMF, 15k ohm, 2W
R977	24366122	CF, 1200 ohm
R980	24366471	CF, 470 ohm
R981	24366821	CF, 820 ohm
R982	24366103	CF, 10k ohm
R983	24366222	CF, 2200 ohm
R984	24367152	CF, 1500 ohm, ±2%
R985	24367471	CF, 470 ohm, ±2%
R986	24367681	CF, 680 ohm, ±2%
R987	24367681	CF, 680 ohm, ±2%
R988	24367472	CF, 4700 ohm, ±2%
R989	24367472	CF, 4700 ohm, ±2%
R990	24366222	CF, 2200 ohm
R991	24367681	CF, 680 ohm, ±2%
R992	24366150	CF, 15 ohm
R3440	24338129	MF, 1.2 ohm, 1W
R3442	24005016	Metal-Glazed Resistor, 180k ohm, 1/2W
R3443	24005016	Metal-Glazed Resistor, 180k ohm, 1/2W
R3444	24005016	Metal-Glazed Resistor, 180k ohm, 1/2W
R3445	24005016	Metal-Glazed Resistor, 180k ohm, 1/2W
R4460	24366102	CF, 1k ohm
R4461	24366102	CF, 1k ohm
R4462	24366133	CF, 13k ohm
R4463	24366682	CF, 6800 ohm
R4465	24366223	CF, 22k ohm
R4466	24366223	CF, 22k ohm
R4467	24366223	CF, 22k ohm
R4468	24366472	CF, 4700 ohm
R4767	24003984	MF, 1000 ohm, 1/4W
RA02	24366102	CF, 1k ohm
RA03	24366102	CF, 1k ohm
RA04	24366102	CF, 1k ohm
RA05	24366102	CF, 1k ohm
RA06	24366102	CF, 1k ohm
RA07	24366102	CF, 1k ohm
RA08	24366102	CF, 1k ohm
RA09	24366102	CF, 1k ohm
RA10	24366103	CF, 10k ohm
RA13	24366103	CF, 10k ohm
RA14	24366102	CF, 1k ohm
RA15	24366102	CF, 1k ohm
RA16	24366102	CF, 1k ohm
RA17	24366102	CF, 1k ohm
RA18	24366102	CF, 1k ohm
RA20	24366471	CF, 470 ohm
RA21	24366102	CF, 1k ohm
RA22	24366331	CF, 330 ohm
RA23	24366331	CF, 330 ohm
RA24	24366331	CF, 330 ohm
RA25	24366331	CF, 330 ohm
RA26	24366102	CF, 1k ohm
RA27	24366102	CF, 1k ohm
RA33	24366103	CF, 10k ohm

Location No.	Part No.	Description
RA34	24366102	CF, 1k ohm
RA35	24366102	CF, 1k ohm
RA36	24366103	CF, 10k ohm
RA37	24366331	CF, 330 ohm
RA38	24366331	CF, 330 ohm
RA40	24366101	CF, 100 ohm
RA41	24366101	CF, 100 ohm
RA61	24366103	CF, 10k ohm
RA62	24366103	CF, 10k ohm
RA67	24366472	CF, 4700 ohm
RA68	24366472	CF, 4700 ohm
RA71	24366683	CF, 68k ohm
RA72	24366223	CF, 22k ohm
RA73	24366103	CF, 10k ohm
RA74	24366333	CF, 33k ohm
RA99	24366223	CF, 22k ohm
RA201	24366472	CF, 4700 ohm
RB01	24366271	CF, 270 ohm
RB03	24366101	CF, 100 ohm
RB09	24366470	CF, 47 ohm
RB11	24366103	CF, 10k ohm
RB21	24366472	CF, 4700 ohm
RB22	24366122	CF, 1200 ohm
RB23	24366222	CF, 2200 ohm
RB24	24366472	CF, 4700 ohm
RB25	24366472	CF, 4700 ohm
RB30	24366103	CF, 10k ohm
RB43	24366103	CF, 10k ohm
RB44	24366103	CF, 10k ohm
RB45	24366181	CF, 180 ohm
RB46	24366101	CF, 100 ohm
RB47	24366332	CF, 3300 ohm
RB48	24366473	CF, 47k ohm
RB49	24366332	CF, 3300 ohm
RD80	24366102	CF, 1k ohm
RD81	24366152	CF, 1500 ohm
RD82	24366103	CF, 10k ohm
RD83	24366102	CF, 1k ohm
RD85	24366103	CF, 10k ohm
RG02	24366101	CF, 100 ohm
RG03	24366101	CF, 100 ohm
RG05	24366102	CF, 1k ohm
RG08	24366394	CF, 390k ohm
RG09	24366393	CF, 39k ohm
RG14	24366332	CF, 3300 ohm
RG15	24327153	MF, 15k ohm, ±1%, 1/4W
RG16	24366162	CF, 1600 ohm
RG17	24366472	CF, 4700 ohm
RG22	24366101	CF, 100 ohm
RG23	24366101	CF, 100 ohm
RG41	24366103	CF, 10k ohm
RG43	24366472	CF, 4700 ohm
RG44	24366222	CF, 2200 ohm
RG60	24366182	CF, 1800 ohm
RG61	24366182	CF, 1800 ohm
RG62	24366473	CF, 47k ohm
RG63	24366821	CF, 820 ohm
RG64	24366222	CF, 2200 ohm
RG66	24366562	CF, 5600 ohm
RG67	24366822	CF, 8200 ohm
RG68	24366102	CF, 1k ohm
RG69	24366564	CF, 560k ohm
RG70	24366102	CF, 1k ohm
RG71	24366473	CF, 47k ohm

Location No.	Part No.	Description
RG72	24366222	CF, 2200 ohm
RJ01	24366103	CF, 10k ohm
RJ02	24366102	CF, 1k ohm
RJ04	24366102	CF, 1k ohm
RJ05	24323479	MF, 4.7 ohm, 2W
RJ06	24366103	CF, 10k ohm
RR01	24366102	CF, 1k ohm
RR02	24366472	CF, 4700 ohm
RR03	24366102	CF, 1k ohm
RR04	24366472	CF, 4700 ohm
RR05	24366102	CF, 1k ohm
RR06	24366472	CF, 4700 ohm
RR07	24366681	CF, 680 ohm
RR08	24366682	CF, 6800 ohm
RR93	24366472	CF, 4700 ohm
RS02	24366562	CF, 5600 ohm
RS04	24366562	CF, 5600 ohm
RS08	24366562	CF, 5600 ohm
RS10	24366562	CF, 5600 ohm
RS14	24366562	CF, 5600 ohm
RS16	24366562	CF, 5600 ohm
RS21	24366562	CF, 5600 ohm
RS22	24366472	CF, 4700 ohm
RS23	24366472	CF, 4700 ohm
RS24	24366562	CF, 5600 ohm
RS25	24366562	CF, 5600 ohm
RS26	24366562	CF, 5600 ohm
RS40	24366272	CF, 2700 ohm
RS42	24366272	CF, 2700 ohm
RS43	24366103	CF, 10k ohm
RS44	24366103	CF, 10k ohm
RS60	24366101	CF, 100 ohm
RS61	24366222	CF, 2200 ohm
RS62	24366101	CF, 100 ohm
RS63	24366222	CF, 2200 ohm
RS64	24366102	CF, 1k ohm
RS65	24366102	CF, 1k ohm
RS66	24366102	CF, 1k ohm
RS68	24366223	CF, 22k ohm
RS69	24366223	CF, 22k ohm
RS70	24366104	CF, 100k ohm
RS71	24366104	CF, 100k ohm
RS101	24366332	CF, 3300 ohm
RS102	24366332	CF, 3300 ohm
RS105	24366332	CF, 3300 ohm
RS107	24366473	CF, 47k ohm
RS108	24366473	CF, 47k ohm
RS109	24366123	CF, 12k ohm
RS110	24366471	CF, 470 ohm
RS111	24366222	CF, 2200 ohm
RS113	24366123	CF, 12k ohm
RS114	24366471	CF, 470 ohm
RS115	24366222	CF, 2200 ohm
RS611	24366101	CF, 100 ohm
RS612	24366101	CF, 100 ohm
RS613	24366101	CF, 100 ohm
RS614	24366101	CF, 100 ohm
RS615	24366473	CF, 47k ohm
RS616	24366473	CF, 47k ohm
RS617	24366473	CF, 47k ohm
RS618	24366473	CF, 47k ohm
RS619	24366103	CF, 10k ohm
RS620	24366103	CF, 10k ohm
RS630	24366223	CF, 22k ohm

Location No.	Part No.	Description
RV02	24366750	CF, 75 ohm
RV04	24366750	CF, 75 ohm
RV05	24366750	CF, 75 ohm
RV07	24366103	CF, 10k ohm
RV09	24366750	CF, 75 ohm
RV10	24366750	CF, 75 ohm
RV11	24366100	CF, 10 ohm
RV12	24366103	CF, 10k ohm
RV19	24366101	CF, 100 ohm
RV20	24366101	CF, 100 ohm
RV22	24366103	CF, 10k ohm
RV35	24366103	CF, 10k ohm
RV36	24366103	CF, 10k ohm
RV60	24552101	OMF, 100 ohm, 1/2W
RV61	24366101	CF, 100 ohm
RV62	24366750	CF, 75 ohm
RV63	24366101	CF, 100 ohm
RW01	24366750	CF, 75 ohm
RW02	24366750	CF, 75 ohm
RW03	24366750	CF, 75 ohm
RZ01	24872102	Chip, 1k ohm, 1/16W
RZ02	24872102	Chip, 1k ohm, 1/16W
RZ03	24872332	Chip, 3300 ohm, 1/16W
RZ04	24872122	Chip, 1200 ohm, 1/16W
RZ05	24872471	Chip, 470 ohm, 1/16W
RZ06	24872821	Chip, 820 ohm, 1/16W
RZ08	24872122	Chip, 1200 ohm, 1/16W
RZ09	24872101	Chip, 100 ohm, 1/16W
RZ10	24872471	Chip, 470 ohm, 1/16W
RZ12	24872332	Chip, 3300 ohm, 1/16W
RZ13	24872122	Chip, 1200 ohm, 1/16W
RZ14	24872391	Chip, 390 ohm, 1/16W
RZ15	24872391	Chip, 390 ohm, 1/16W
RZ17	24872471	Chip, 470 ohm, 1/16W
RZ18	24872122	Chip, 1200 ohm, 1/16W
RZ19	24872332	Chip, 3300 ohm, 1/16W
RZ20	24872101	Chip, 100 ohm, 1/16W
RZ22	24872471	Chip, 470 ohm, 1/16W
RZ29	24872331	Chip, 330 ohm, 1/16W
RZ30	24872331	Chip, 330 ohm, 1/16W

COILS & TRANSFORMERS

L101	23289845	Coil, Peaking, TRF4680AT
L111	23289844	Coil, Peaking, TRF4470AT
L121	23238562	Coil, Peaking, TRF4109AJ
L122	23238562	Coil, Peaking, TRF4109AJ
L301	23103880	Coil (Ferrite Bead), TEM2011Y
L400	23238714	Coil, Peaking, TRF4100AJ
⚠L441	23233979	Coli, Linearity, TLN2206AG
L442	23248121	Coil, Choke, TLN3383D
⚠L461	23248179	Coil, Choke, TLN3339AD
L500	23289840	Coil, Peaking, TRF4100AT
L501	23289844	Coil, Peaking, TRF4470AT
L502	23289844	Coil, Peaking, TRF4470AT
L702	23261974	Coil, Choke, HC5-035
L704	23103859	Coil (Ferrite Bead), TEM2011
L705	23103859	Coil (Ferrite Bead), TEM2011
L805	23248227	Coil, Choke, TLN3481AD
L806	23248227	Coil, Choke, TLN3481AD
L815	23103880	Coil (Ferrite Bead), TEM2011Y
L816	23103880	Coil (Ferrite Bead), TEM2011Y
L883	23103880	Coil (Ferrite Bead), TEM2011Y
L885	23248073	Coil, Choke, TLN3299D
L886	23103880	Coil (Ferrite Bead), TEM2011Y

Location No.	Part No.	Description
L901	23200447	Coil, Degaussing, TSB-2407AK
L902	23289221	Coil, Peaking, TRF4221AF
L903	23289221	Coil, Peaking, TRF4221AF
L904	23289221	Coil, Peaking, TRF4221AF
L908	23289100	Coil, Peaking, TRF4100AF
L910	23237991	Coil, Peaking, TRF4479AC
LA01	23289100	Coil, Peaking, TRF4100AF
LV01	23289840	Coil, Peaking, TRF4100AT
LV03	23103852	Coil, Filter, TEM2028AH
LV04	23103852	Coil, Filter, TEM2028AH
LV45	23289840	Coil, Peaking, TRF4100AT
LV99	23103845	Coil, TEM2030AY
LZ01	23238710	Coil, Peaking, TRF4220AJ
LZ02	23238714	Coil, Peaking, TRF4100AJ
LZ03	23238714	Coil, Peaking, TRF4100AJ
LZ04	23238714	Coil, Peaking, TRF4100AJ
LZ05	23238714	Coil, Peaking, TRF4100AJ
LZ08	23238707	Coil, Peaking, TRF4390AJ
LZ11	23238710	Coil, Peaking, TRF4220AJ
LZ12	23238710	Coil, Peaking, TRF4220AJ
T401	23224367	Transformer, Horiz. Drive, TLN1098AH
⚠T461	23236582	Transformer, Flyback, TFB4153AD
T801	23211739	Line Filter, TRF3229AL
T840	23213513	Transformer, Power, TPW1459AZ
T862	23217460	Transformer, Converter, TPW3445AE

SEMICONDUCTORS

Q151	23114530	Transistor, 2SA933S-Q
Q152	23114528	Transistor, 2SC1740S, Q
Q201	23114528	Transistor, 2SC1740S, Q
Q202	23114528	Transistor, 2SC1740S, Q
Q203	23114528	Transistor, 2SC1740S, Q
Q204	A6002040	Transistor, RN1204
Q301	B0378560	IC, TA8427K
Q301B	72471082	Screw, BRDT2W3X10 SZN
Q360	23114528	Transistor, 2SC1740S, Q
Q361	23314445	Transistor, 2SC4721, Q
Q370	23114530	Transistor, 2SA933S-Q
Q391	23314548	Transistor, 2SC4256
Q402	A6330069	Transistor, 2CS2482 FA-1
Q403	23314444	Transistor, 2SC4721P
Q404	A6873777	Transistor, 2SD2553
Q421	23314707	Transistor, 2SD1944, H
Q461	23114530	Transistor, 2SA933S-Q
Q463	23314938	Transistor, 2SD2493(P)
Q470	23114528	Transistor, 2SC1740S, Q
Q471	A6534020	Transistor, 2SA1015-O
Q472	A6317440	Transistor, 2SC1815-Y
Q480	A6532853	Transistor, 2SA949-Y(C)
Q481	A6317440	Transistor, 2SC1815-Y
Q482	A6317440	Transistor, 2SC1815-Y
Q483	A6012010	Transistor, RN2201
Q501	B01A0007	IC, TA1310N
Q610	B01A0068	IC, TA8265K
Q611	A6342200	Transistor, 2CS2878-A
Q612	23314962	Transistor, KTA1266 Y
Q613	A6342200	Transistor, 2CS2878-A
Q706	A6317440	Transistor, 2SC1815-Y
Q707	23114528	Transistor, 2SC1740S, Q
Q709	23114528	Transistor, 2SC1740S, Q

Location No.	Part No.	Description
Q710	23114530	Transistor, 2SA933S-Q
Q711	A6550640	Transistor, 2SA1837
Q712	A6369650	Transistor, 2SC4793
Q719	23114528	Transistor, 2SC1740S, Q
Q720	23114528	Transistor, 2SC1740S, Q
Q801B	72471082	Screw, BRDT2W3X10 SZN
Q805	A6002050	Transistor, RN1205
Q830	23314707	Transistor, 2SD1944, H
Q840	23318299	IC, L78MR05
Q843	A6002050	Transistor, RN1205
Q862	A8643108	Photo Coupler, TLP621(GR-LF
⚠ Q883	23000352	IC, SE125N, LF4
Q901	A6368700	Transistor, 2CS4544
Q902	A6317440	Transistor, 2SC1815-Y
Q903	A6368700	Transistor, 2CS4544
Q904	A6317440	Transistor, 2SC1815-Y
Q905	A6368700	Transistor, 2CS4544
Q906	A6317440	Transistor, 2SC1815-Y
Q907	23114530	Transistor, 2SA933S-Q
Q908	A6321240	Transistor, 2SC2120-Y
Q910	A6317440	Transistor, 2SC1815-Y
Q911	23114528	Transistor, 2SC1740S, Q
Q912	23114528	Transistor, 2SC1740S, Q
Q913	A6532920	Transistor, 2SA950-O
Q914	A6317440	Transistor, 2SC1815-Y
Q4460	A6317440	Transistor, 2SC1815-Y
Q4461	A6317440	Transistor, 2SC1815-Y
Q4462	A6317440	Transistor, 2SC1815-Y
QA01	23000818	IC, 88CS38N
QA02	23905665	IC, AT24C08-10PC
QB01	A6317440	Transistor, 2SC1815-Y
QB03	A6002050	Transistor, RN1205
QB22	A6734590	Transistor, 2SC752(G)TM-Y
QB23	A6317440	Transistor, 2SC1815-Y
QB30	A6317440	Transistor, 2SC1815-Y
QB40	A6317440	Transistor, 2SC1815-Y
QB41	A6317440	Transistor, 2SC1815-Y
QD80	23114530	Transistor, 2SA933S-Q
QG01	23906499	IC, μPC1851BCU
QG60	23904303	IC, BA10358
QG61	23119228	IC, μPC1406HA
QJ02	23114528	Transistor, 2SC1740S, Q
QJ03	A6369650	Transistor, 2SC4793
QJ04	23114528	Transistor, 2SC1740S, Q
QS101	23904303	IC, BA10358
QS106	B0470532	IC, TC4053BP
QS60	23314965	Transistor, KTC3198 Y
QS61	23314965	Transistor, KTC3198 Y
QS62	A6012040	Transistor, RN2204
QS63	A6342200	Transistor, 2CS2878-A
QS64	A6342200	Transistor, 2CS2878-A
QV01	23000369	IC, MM1495XD
QV02	23904943	IC, MM1111XS
QV05	A6002030	Transistor, RN1203
QV10	A6002030	Transistor, RN1203
QV11	A6734590	Transistor, 2SC752(G)TM-Y
QV60	A6317440	Transistor, 2SC1815-Y
QZ01	B0410895	IC, TC90A49P
QZ02	A6541130	Transistor, 2SA1162-Y
QZ03	A6541130	Transistor, 2SA1162-Y
QZ04	A6541130	Transistor, 2SA1162-Y
QZ05	A6335470	Transistor, 2SC2712-Y
QZ06	A6541130	Transistor, 2SA1162-Y
QZ07	A6541130	Transistor, 2SA1162-Y

Location No.	Part No.	Description
QZ08	A6335470	Transistor, 2SC2712-Y
D101	23316755	Diode, Zener, MTZJ33C
D201	23118859	Diode, 1SS133
D221	23118859	Diode, 1SS133
D222	23118859	Diode, 1SS133
D223	23118859	Diode, 1SS133
D224	23118859	Diode, 1SS133
D252	23118518	Diode, Zener, RD9.1ESA B1
D253	23118518	Diode, Zener, RD9.1ESA B1
D301	23118095	Diode, ERB44-06, E
D302	23118095	Diode, ERB44-06, E
D308	23118822	Diode, ERB12-02
D309	23118822	Diode, ERB12-02
D310	23118859	Diode, 1SS133
D313	23118859	Diode, 1SS133
D314	23118859	Diode, 1SS133
D315	23118859	Diode, 1SS133
D316	23316679	Diode, Zener, MTZJ6.8C
D370	23316672	Diode, Zener, MTZJ5.6B
D371	23118859	Diode, 1SS133
D406	23118094	Diode, EU2A, LF-F10
D408	23118052	Diode, RU4Z LF-L1
D409	23316690	Diode, Zener, MTZJ10B
D411	23118520	Diode, Zener, RD8.2ESA B2
D421	23316665	Diode, Zener, MTZJ4.7A
D422	23316669	Diode, Zener, MTZJ5.1B
D430	23118510	Diode, Zener, RD12ESA B3
D441	23316687	Diode, Zener, MTZJ9.1B
D461	23316582	Diode, ERC20-06
D461B	70391356	Screw, BITTB3X10 SZN
D464	23316648	Diode, Zener, MTZJ2.2A
D466	23316653	Diode, Zener, MTZJ2.7B
D467	23118095	Diode, ERB44-06, E
D470	23118859	Diode, 1SS133
D471	23118095	Diode, ERB44-06, E
⚠ D472	23115774	Diode, Zener, RD6.2E(4)
D473	23118859	Diode, 1SS133
D480	23316727	Diode, Zener, MTZJ16A
D611	23118859	Diode, 1SS133
D612	23118859	Diode, 1SS133
D613	23118859	Diode, 1SS133
D614	23118859	Diode, 1SS133
D704	23118859	Diode, 1SS133
D705	23118859	Diode, 1SS133
D715	23118859	Diode, 1SS133
D720	23118859	Diode, 1SS133
D721	23118859	Diode, 1SS133
D801	23316391	Diode, D3SB60, 4109
D805	23118859	Diode, 1SS133
D806	23118094	Diode, EU2A, LF-F10
D807	23118859	Diode, 1SS133
D810	23316269	Diode, AK04
D815	23316746	Diode, Zener, MTZJ27B
D830	23316673	Diode, Zener, MTZJ5.6C
D840	23316962	Diode, S1WBA20 4101
D845	23118859	Diode, 1SS133
D855	23118859	Diode, 1SS133
D881	23118859	Diode, 1SS133
D883	23357344	Diode, RU3AM LF-C1
D899	24019486	Varistor, ENE431D-10S
D901	23118859	Diode, 1SS133
D903	23118859	Diode, 1SS133
D904	23118859	Diode, 1SS133
D905	23118859	Diode, 1SS133

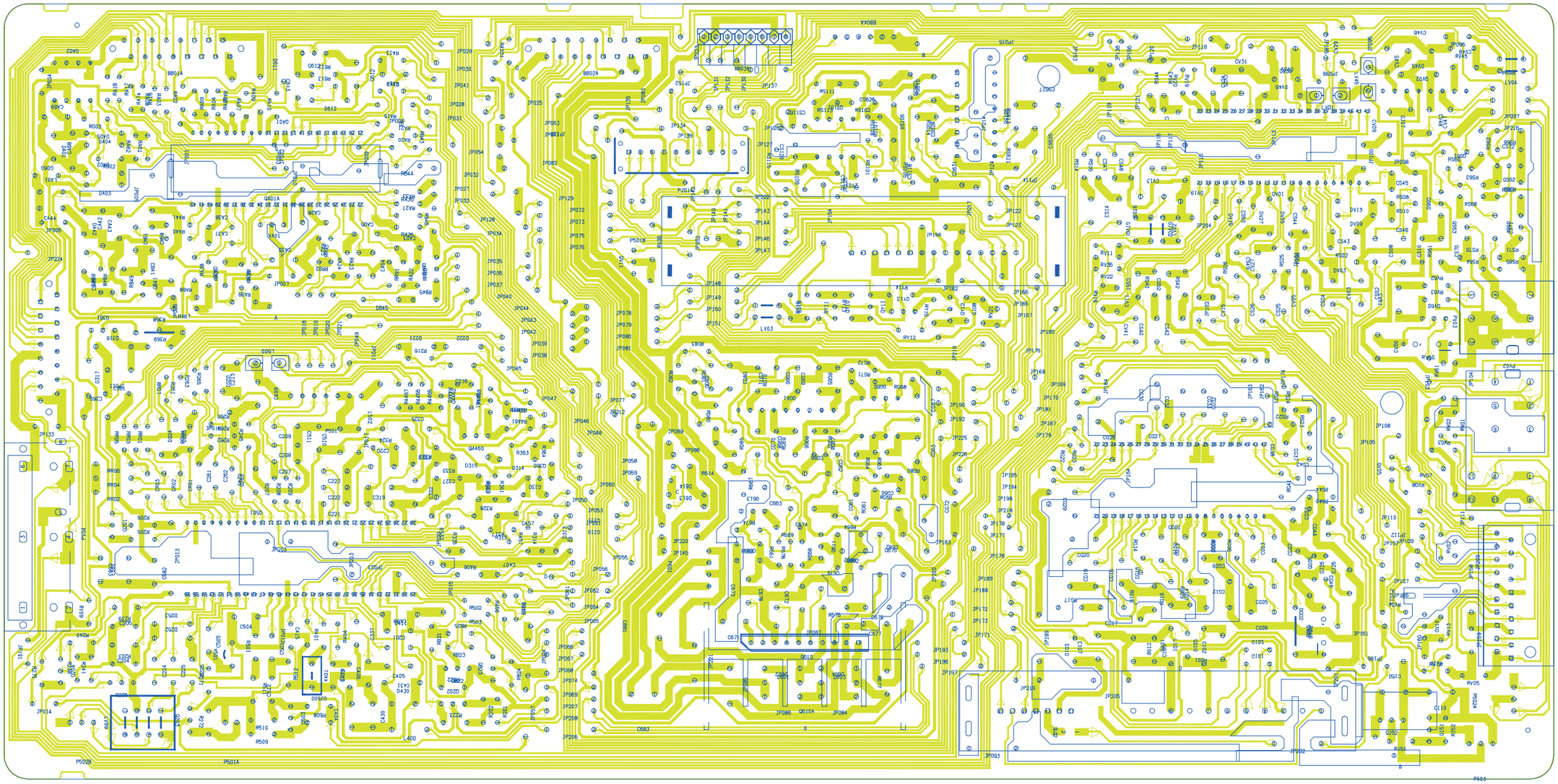
Location No.	Part No.	Description
D906	23118859	Diode, 1SS133
D907	23118859	Diode, 1SS133
D908	23118859	Diode, 1SS133
D909	23118859	Diode, 1SS133
D910	23118859	Diode, 1SS133
D911	A7568250	Diode, 1S1834
DA42	23118529	Diode, Zener, RD5.6ESA B2
DB03	23358522	Diode (LED), SIR-56SB3F
DB30	23118859	Diode, 1SS133
DB45	23316817	Diode, 1SS120-7
DE50	23358501	Diode (LED), SCL003URC5F
DJ01	23316817	Diode, 1SS120-7
DJ02	23118504	Diode, Zener, RD15ESA B3
DS106	23316660	Diode, Zener, MTZJ3.9A
MISCELLANEOUS		
B230	23037312	Screw, BTBW 3X12 SZN
B231	23035412	Screw, BTB 4X12 SZN
B232	23035312	Screw, BTB 3X12 SZN
BB01	23368627	Plug, 8P
BB01A	23713014	Plug, Bridge
BB01B	23713013	Socket, Base
BB02	23368627	Plug, 8P
BB02A	23713014	Plug, Bridge
BB02B	23713013	Socket, Base
BB03	23368627	Plug, 8P
BB03A	23903022	Socket, 8P
BB03B	23903022	Socket, 8P
BB04B	23368517	Plug, B-B, 6P
F470	23144785	Fuse, 1.25A, 125V
F801	23144745	Fuse, 10.0A, 125V
F801A	23165433	Holder, Fuse
F802	23144733	Fuse, 3.15A-T, 125V, Mini
F802A	23165433	Holder, Fuse
G060	24366470	CF, 47 ohm
G217	24366333	CF, 33k ohm
G301	24366102	CF, 1k ohm
G317	23118859	Diode, 1SS133
G405	24214472	CD, 4700pF, ±10%, 500V
G980	24005012	MF, 15M ohm, 1/2W
H003	23344421	RF Switch, RSU133X6
H003A	23740989	Nut, F-Connector
KB01	23906805	Remote Sensor, PIC-TB17
M461A	23192945	Anode Cap, TCCP5162
M461B	23504203	Cable, Forcus
M461C	23504204	Cable, Screen
P102	23902749	Socket, B-B, 6P
P801	23372112	Power Cord
P910	23164725	Plug, 2P
PV011	23365274	Jack, 2S6P
PV02	23365949	Jack, 5P
PV03	23365821	Jack, 3P
PV04	23365763	Jack, Phono, 3P
PZ01	23368130	Plug, 10P
PZ01A	23902213	Socket, B-B, 10P
SA01	23145430	Switch, Push, 1C1P
SA02	23145430	Switch, Push, 1C1P
SA03	23145430	Switch, Push, 1C1P
SA04	23145430	Switch, Push, 1C1P
SA05	23145430	Switch, Push, 1C1P
SA06	23145430	Switch, Push, 1C1P
SA07	23145430	Switch, Push, 1C1P
SJ01	23146958	Relay, DC12V
SR81	23146564	Relay, DC12V

Location No.	Part No.	Description
SR83	23146564	Relay, DC12V
V901A	23902068	Socket, CRT, 10P
W661	23351088	Speaker, SPK-1360, 60X120mm, 8 ohm
W662	23351088	Speaker, SPK-1360, 60X120mm, 8 ohm
X401	23153721	Ceramic Resonator, 503kHz, TCR1023
X501	23153961	Crystal, 3.58MHz
XA01	23153325	Ceramic Resonator, 8.00MHz, TCR1056
ZY01	23148771	Module, MKMP35, MULTI PICTURE, PNT
PC BOARD ASSEMBLIES		
＊U801	23786044	PWR/D Board, PB9965D
＊U901	23785923	CRT Drive Board, PB9973
＊U902	23786046	Signal Board, PB9966
＊U905	23786166	3L Board, PB9398A
PICTURE TUBE		
⚠V901	23312713	Picture Tube, A90AHH50X02V
TUNER		
H001	23321410	Tuner, EL969L
HY01	23321379	Tuner, EL955LX1
ACCESSORIES		
K912	23306370	Remote Hand Unit, CT-90047

CABINET PARTS		
A201	23540476	Front Cover
A213	23427939	Door
A223	23445475	Button, Control
A431	23540477	Back Cover
A701	23064519	Carton Box
A703	23946145	Packing, Top
A708	23946146	Packing, Bottom

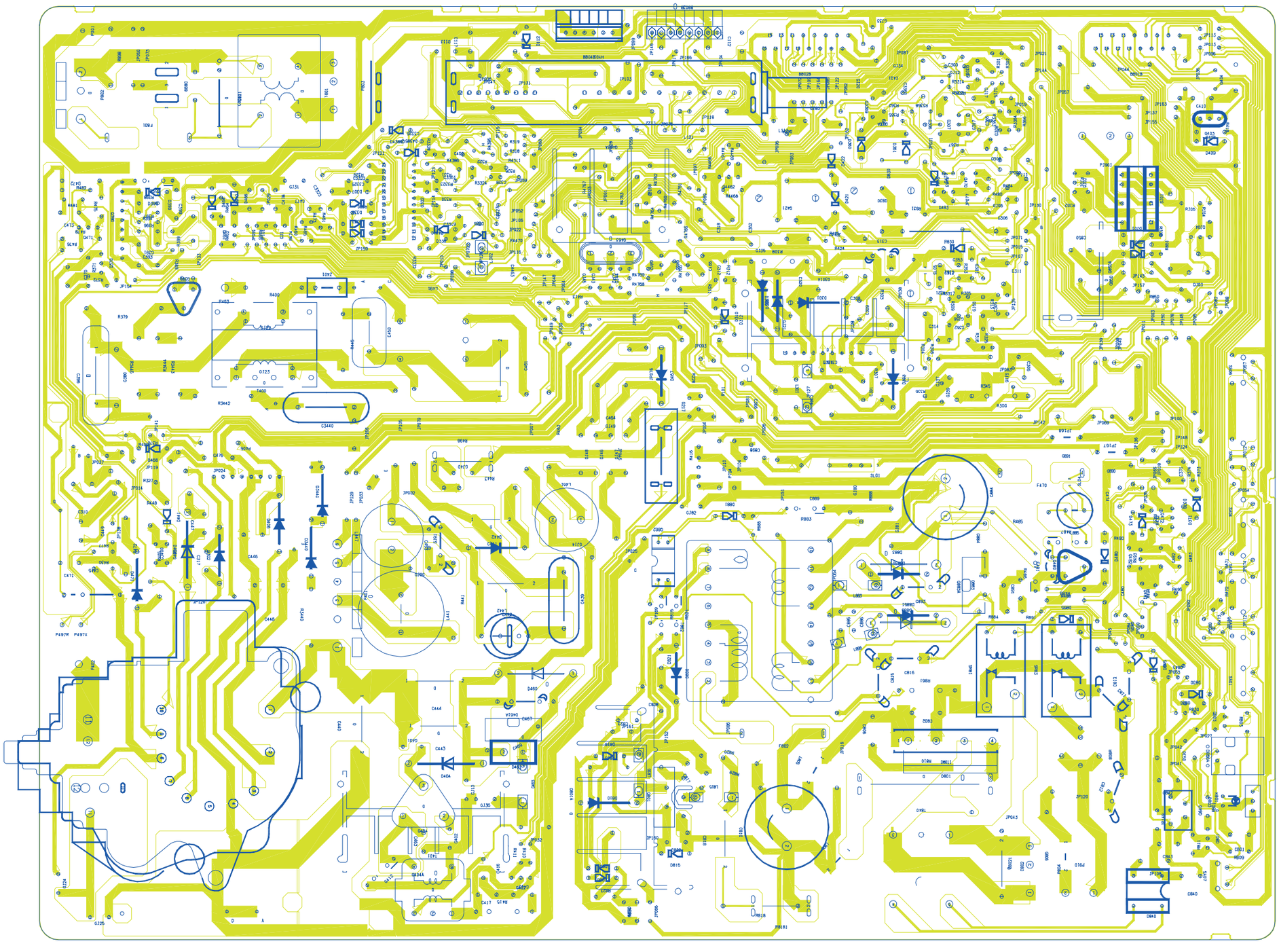
SIGNAL BOARD PB9966

BOTTOM (FOIL) SIDE



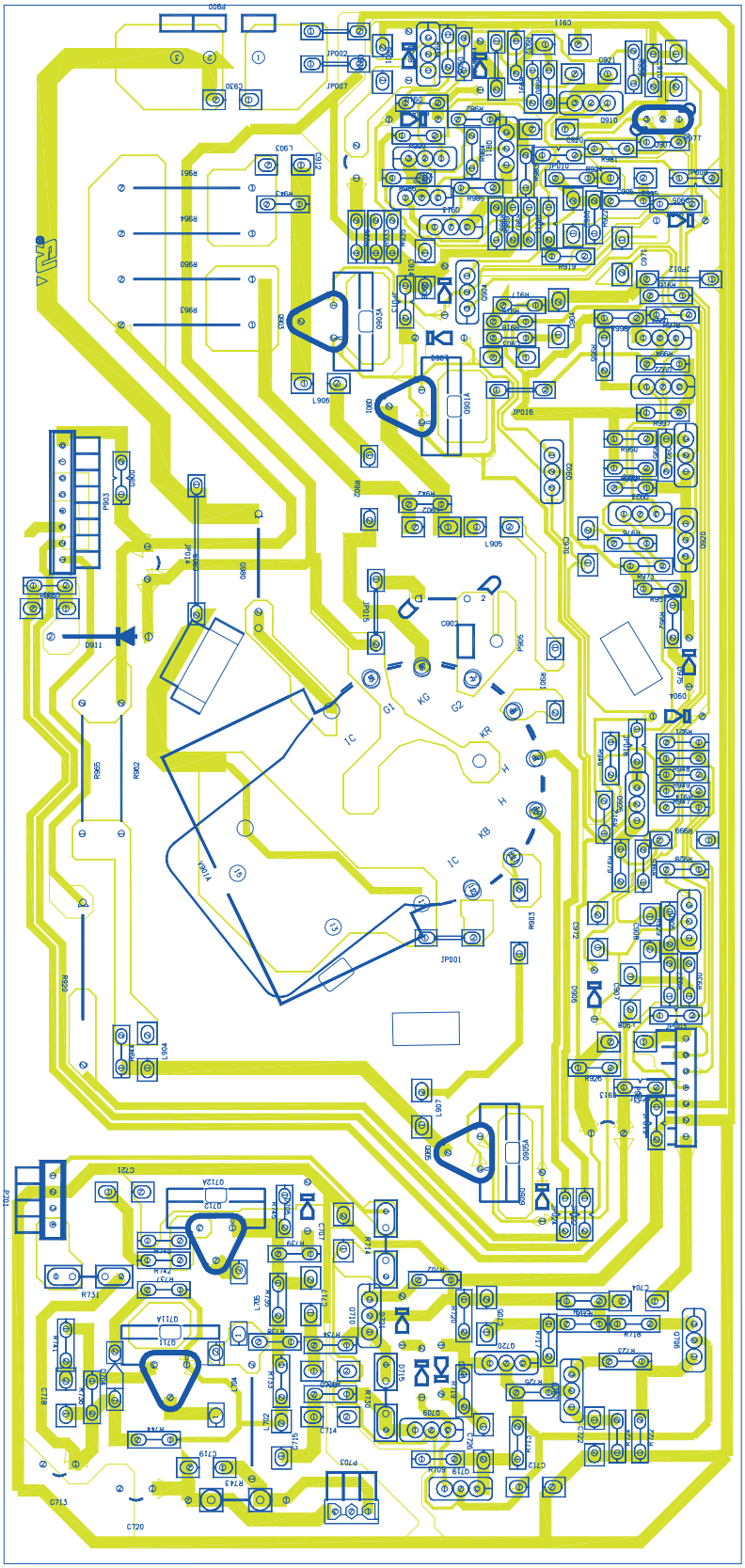
POWER/DEF BOARD PB9965

BOTTOM (FOIL) SIDE



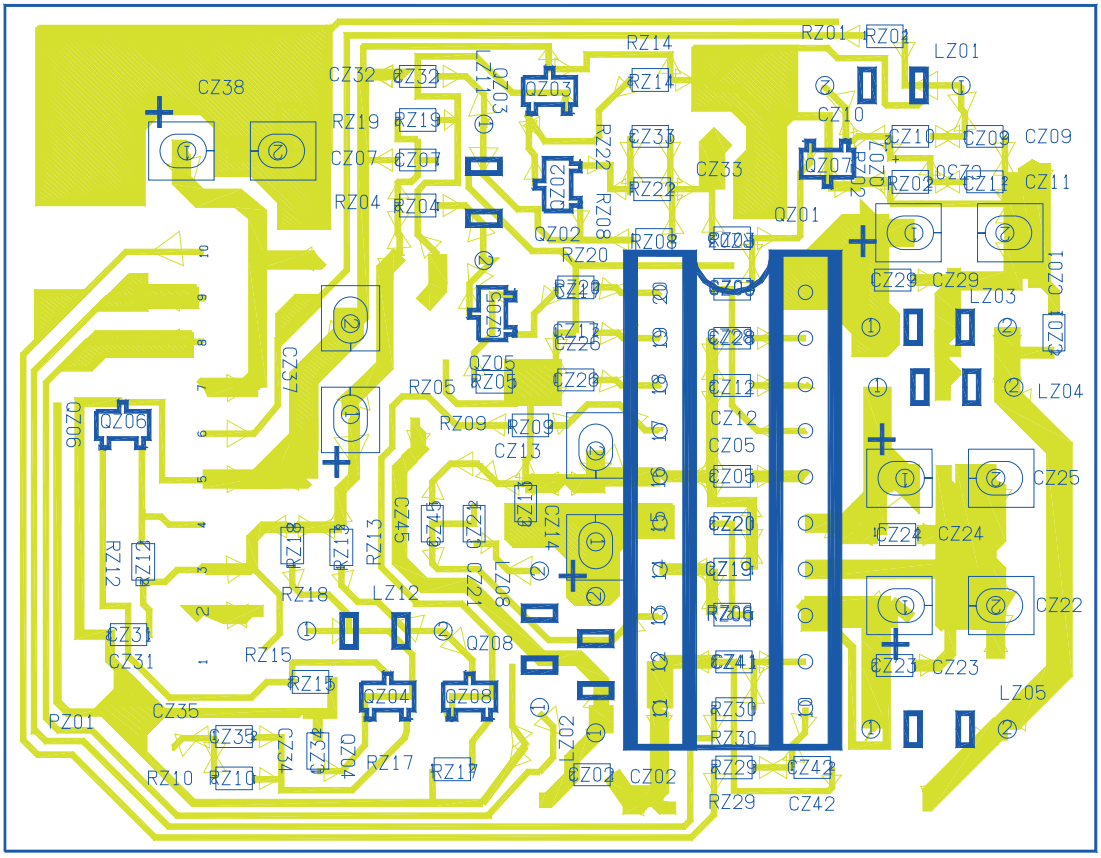
CRT DRIVE BOARD PB9973

BOTTOM (FOIL) SIDE



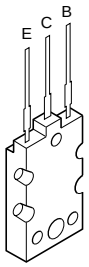
3L BOARD PB9398A

BOTTOM (FOIL) SIDE

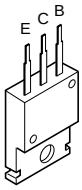


TERMINAL VIEW OF TRANSISTORS

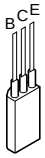
① 2SD2253
(old)
2SC5243



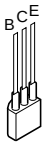
② 2SC3852
2SD1763A
2SC1569
2SC4544
2SA1788
2SA1306
2SA1186A



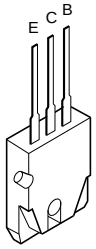
③ 2SC752GTM
2SC2482
2SC2655
2SC4721P



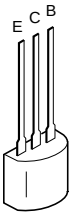
④ 2SC752
2SA562TM
2SA1015
2SC1815
2SC2878
2SC1740S
2SC2120
2SA9335



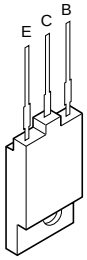
⑤ 2SA1788



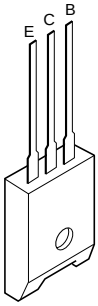
⑥ RN2203
RN2201
RN2004
RN1203
RN1204
RN2204
RN1205
RN1202
RN1201



⑦ 2SD1554
2SD2253
2SD1556
2SD2553
2SC5143



⑧ ON4409



MEMO

MEMO

MEMO

SPECIFICATIONS	
TELEVISION SYSTEM	NTSC standard
CHANNEL COVERAGE	VHF: 2 through 13 UHF: 14 through 69 Cable TV: mid band (A-8 through A-1, A through I) super band (J through W) hyper band (AA through ZZ, AAA, BBB) ultra band (65 through 94, 100 through 125)
POWER SOURCE	120V AC, 60Hz
AUDIO POWER	5W + 5W
SPEAKER TYPE	2-3/8 x 4-3/4 inches (60 x 120 mm)
VIDEO/AUDIO TERMINALS	S-VIDEO INPUT Y: 1V (p-p), 75 ohm, negative sync. C: 0.286V (p-p) (burst signal), 75 ohm VIDEO/AUDIO INPUT VIDEO: 1V(p-p), 75 ohm, negative sync. AUDIO: 150mV(rms) (30% modulation equivalent, 47k ohm) ColorStream™ (Color Difference) VIDEO/AUDIO INPUT Y: 1V (p-p), 75 ohm Cr: 0.7V (p-p), 75 ohm Cb: 0.7V (p-p), 75 ohm AUDIO: 2V (p-p), 1 kohm
DIMENSIONS	Width 970 mm Height 765.5 mm Depth 640 mm
MASS	73.0 kg

* Please refer to owner's manual in detail.

TOSHIBA CORPORATION
1-1, SHIBAURA 1-CHOME, MINATO-KU, TOKYO 105-8001, JAPAN

SCHEMATIC DIAGRAM

MODEL : 36AX61 Chassis No. TAC0113

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON THE MANUAL FOR THIS MODEL.

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on the MANUAL for this model. Do not degrade the safety of the receiver through improper servicing.

NOTE:

1. RESISTOR Resistance is shown in ohm [K = 1.000, M = 1.000.000]. All resistors are 1/6W and 5% tolerance carbon resistor, unless otherwise noted as the following marks.
   1/2R = Metal or Metal oxide of 1/2 watt 1/2S = Carbon compsistion of 1/2 watt
   1RF = Fuse resistor of 1 watt 10W = Cement of 10 watt
   K = ±10% G = ±2% F = ±1%
2. CAPACITOR Unless otherwise noted in schematic, all capacitor values less than 1 are expressed in μF, and the values more than 1 in pF.
   All capacitors are ceramic 50V, unless otherwise noted as the following marks.
   Electolytic capacitor Mylar capacitor
3. The parts indicated with " ⚠ " have special characteristics, and should be replaced with identical parts only.
4. Voltages read with DIGITAL MULTI-METER from point indicated to chassing ground, using a color bar signal with all controls at normal, line voltage 120 volts.
5. Waveforms are taken receiving color bar signal with enough sensitivity.
6. Voltage reading shown are nominal values and may vary ±20% except H.V.

SCHEMATIC DIAGRAM MODEL : 36AX61 Chassis No. TAC0113

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NOTE:

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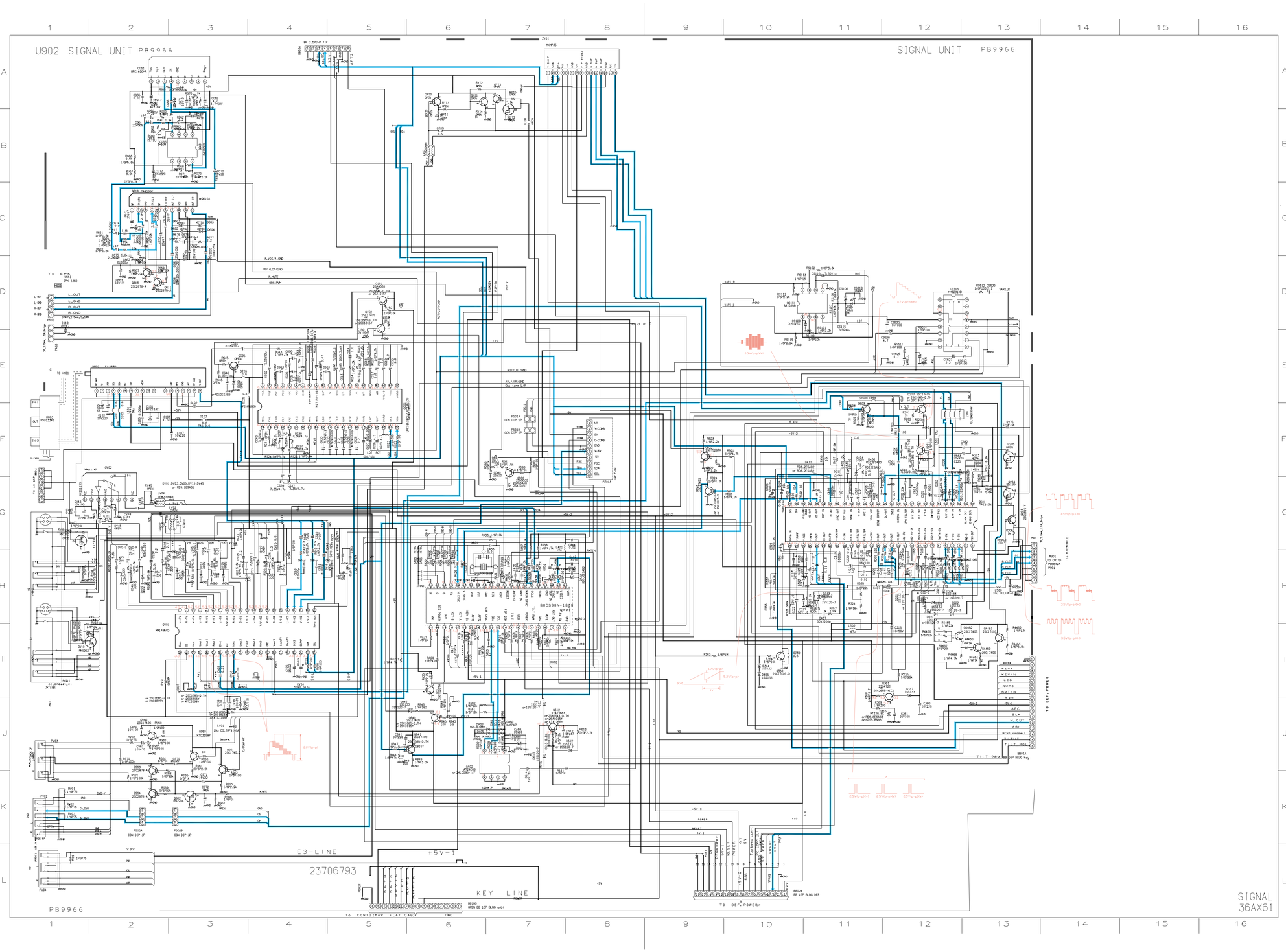
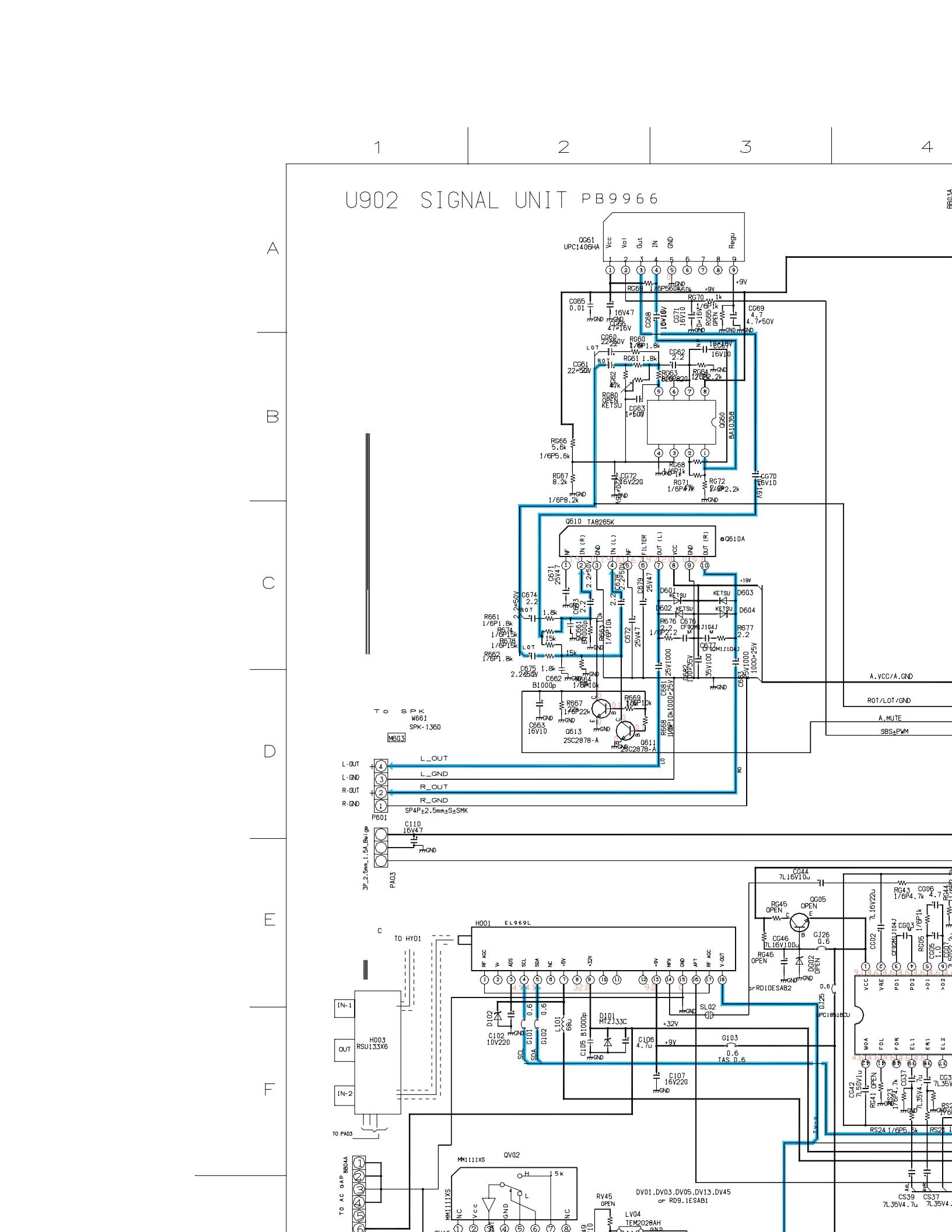
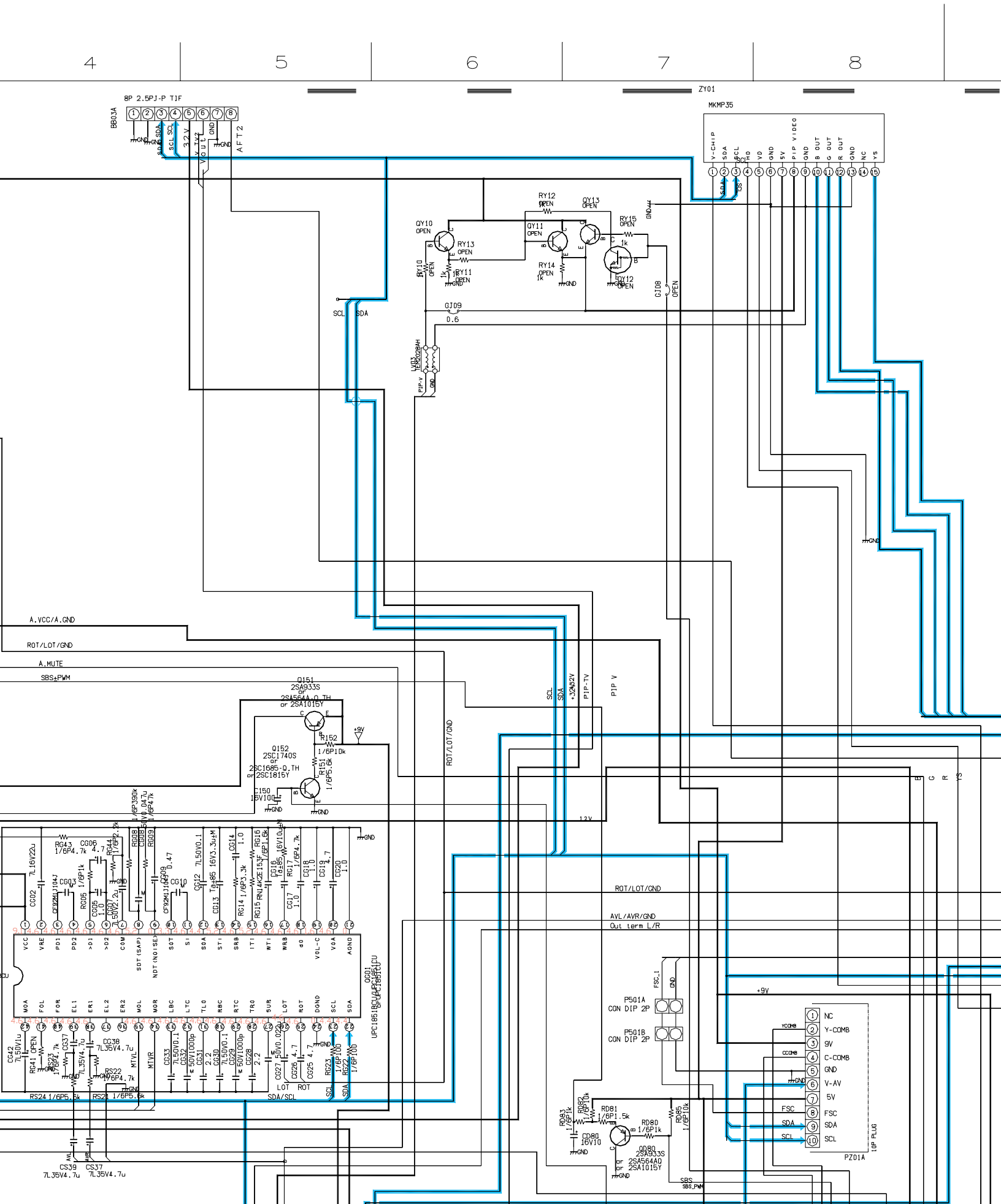
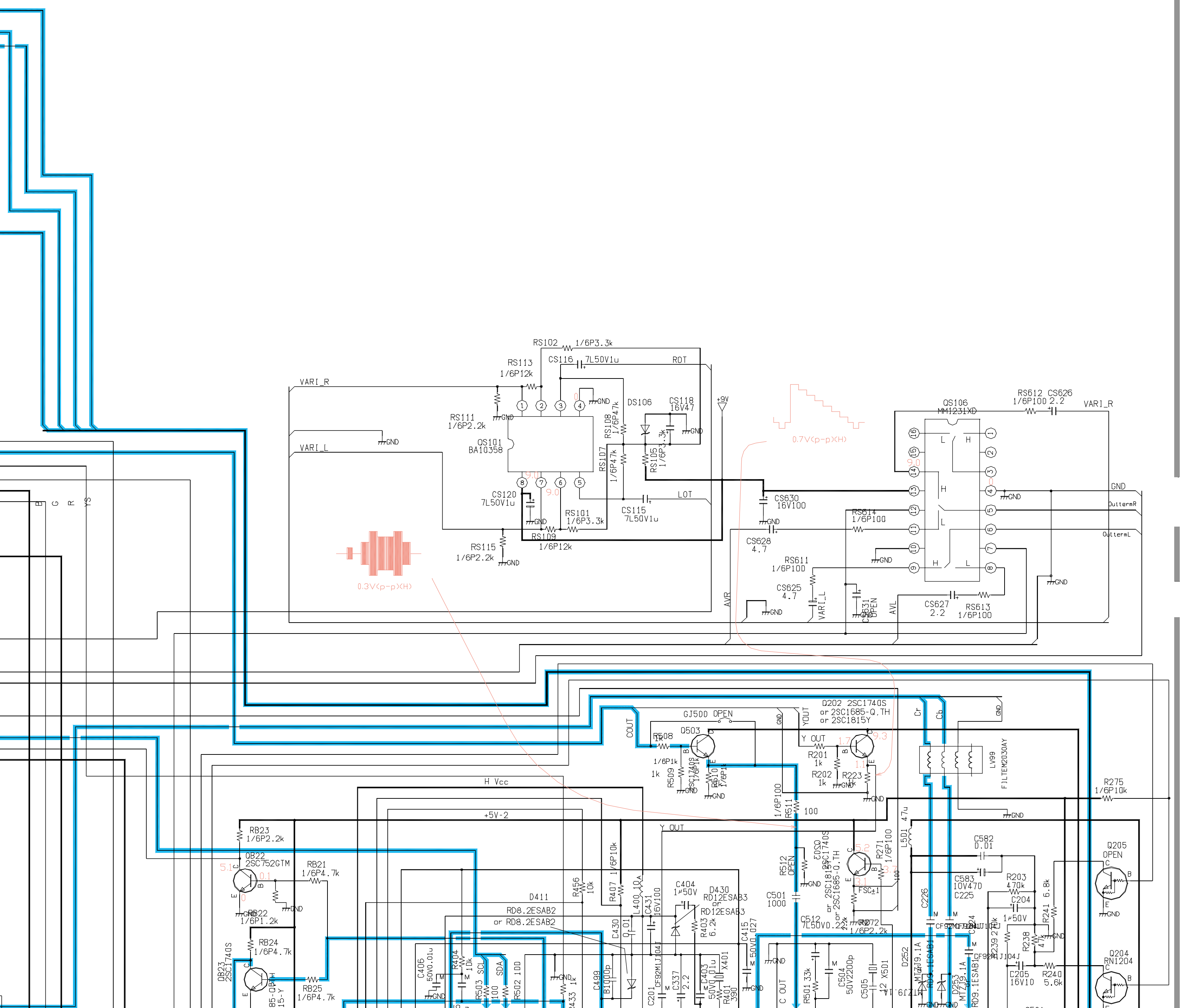
2. CAPACITOR Unless otherwise noted in schematic, all capacitor values less than 1 are expressed in μF, and the values more than 1 in pF.
   All capacitors are ceramic 50V, unless otherwise noted as the following marks.
   —|(+)|— Electolytic capacitor —|(M)|— Mylar capacitor
3. The parts indicated with " ⚠ " have special characteristics, and should be replaced with identical parts only.
4. Voltages read with DIGITAL MULTI-METER from point indicated to chassing ground, using a color bar signal with all controls at normal, line voltage 120 volts.
5. Waveforms are taken receiving color bar signal with enough sensitivity.
6. Voltage reading shown are nominal values and may vary ±20% except H.V.

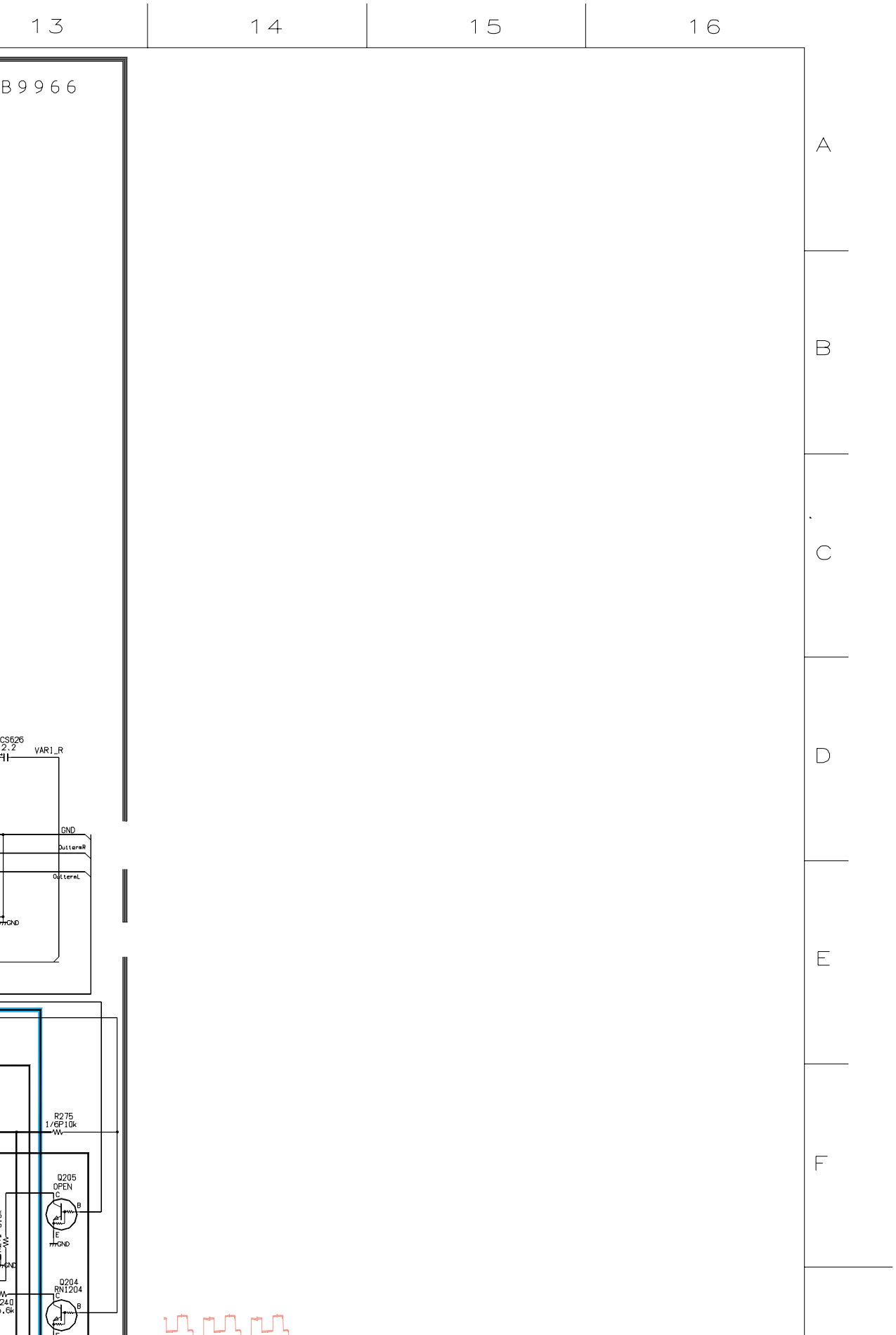


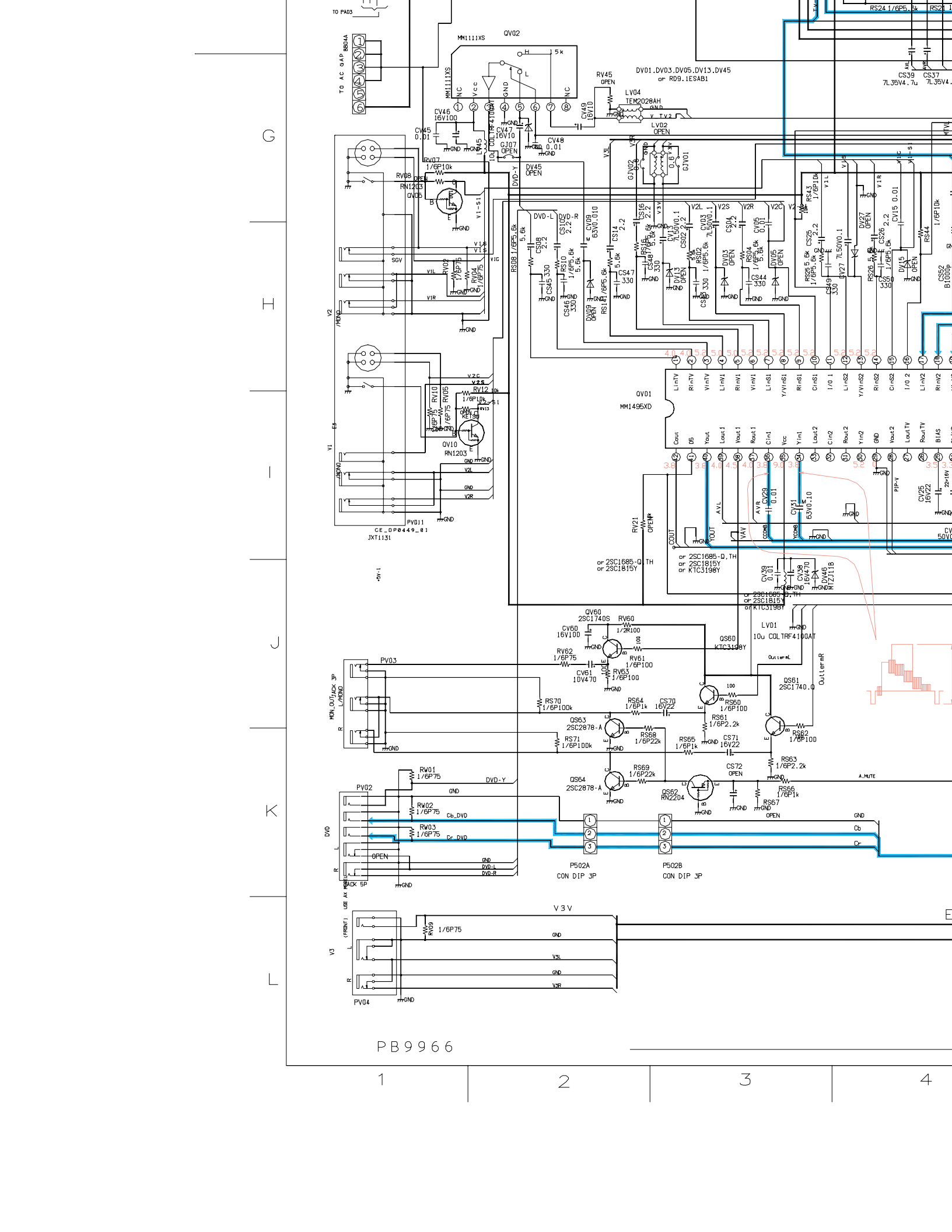

U902 SIGNAL UNIT PB9966
1
2
3
4
A
B
C
D
E
F
QG61 UPC1406HA
Vcc
Vol
Out
IN
GND
Regu
+9V
QG60 BA10358
Q610 TA8265K
Q61DA
IN (R)
IN (L)
FILTER
OUT (L)
OUT (R)
VCC
GND
Q601
Q602
Q603
Q604
KETSU
Q613 2SC2878-A
Q611 2SC2878-A
A.VCC/A.GND
ROT/LOT/GND
A.MUTE
SBS+PWM
To SPK
W661
SPK-1360
M603
L-OUT
L-GND
R-OUT
R-GND
L_OUT
L_GND
R_OUT
R_GND
SP4P±2.5mm±S±SMK
P601
PA03
HY01
EL969L
TO HY01
HD03
RSU133X6
IN-1
OUT
IN-2
TO PA03
QV02
MM1111XS
TO AC GAP
BB04A
RV45
OPEN
LV04
TEM2028AH
DV01.DV03.DV05.DV13.DV45
or RD9.1ESAB1
QG05
OPEN
SL02
+32V
+9V
TAS 0.6
SCL
SDA

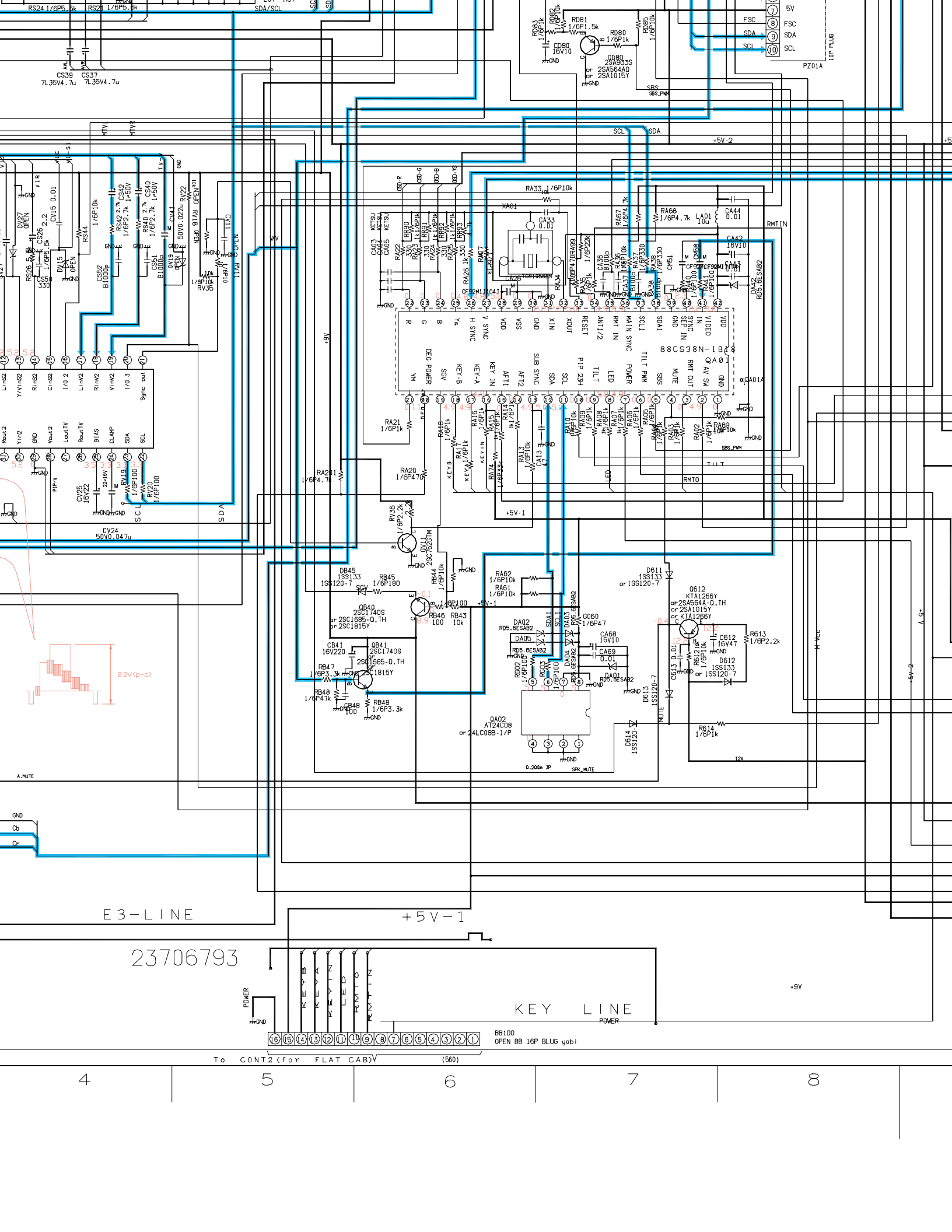

4
5
6
7
8
ZY01
8P 2.5PJ-P T1F
BB03A
MKMP35
V-CHIP
SDA
SCL
HD
VD
GND
5V
PIP VIDEO
GND
B OUT
G OUT
R OUT
GND
NC
YS
SCL
SDA
RY12 OPEN
QY13 OPEN
QY10 OPEN
QY11 OPEN
RY15 OPEN
RY13 OPEN
RY14 OPEN 1k
RY10 OPEN
RY11 OPEN
QY12 OPEN
GJ08 OPEN
GJ09
0.6
A.VCC/A.GND
ROT/LOT/GND
A.MUTE
SBS+PWM
Q151 2SA933S or 2SA564A-Q.TH or 2SA1015Y
Q152 2SC1740S or 2SC1685-Q.TH or 2SC1815Y
R152 1/6P10k
R151 1/6P5.6k
C150 16V100
+9V
P1P V
P1P-TV
+32A52V
1.2V
AVL/AVR/GND
Out term L/R
P501A CON DIP 2P
P501B CON DIP 2P
NC
Y-COMB
9V
C-COMB
GND
V-AV
5V
FSC
SDA
SCL
10P PLUG
PZD1A
Q080 2SA933S or 2SA564AD or 2SA1015Y
SBS
SBS_PWM
RS24 1/6P5.6k
RS23 1/6P5.6k
SDA/SCL
LOT
ROT
CS39 7L35V4.7u
CS37 7L35V4.7u
UPC1851BCU/AP4851CU

SIGNAL UNIT PB9966

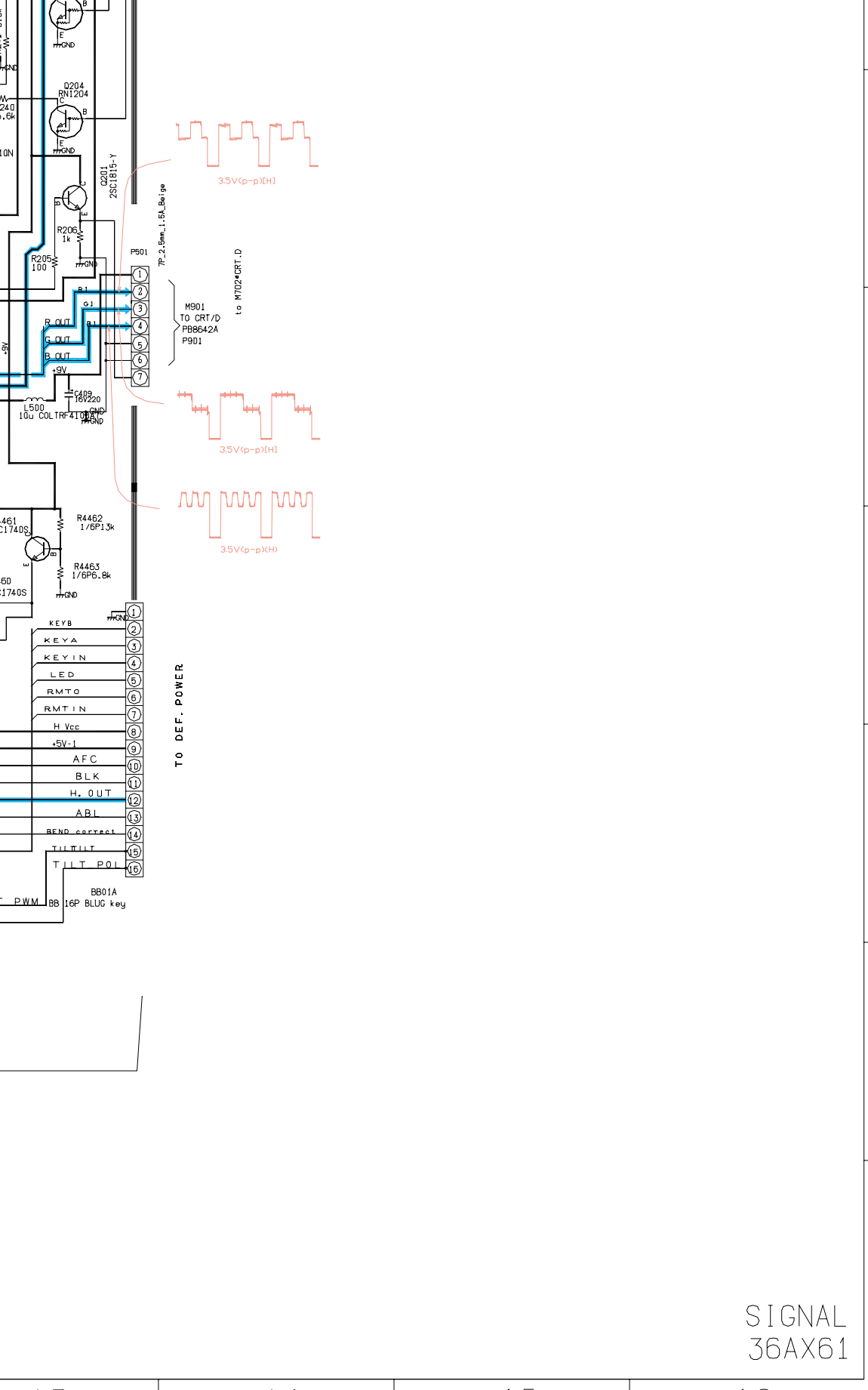



13
14
15
16
A
B
C
D
E
F
B9966
CS626
2.2
VAR1_R
GND
OutterR
OutterL
GND
R275
1/6P10k
Q205
OPEN
C
B
E
GND
Q204
RN1204
C
B


PB9966
1
2
3
4
G
H
I
J
K
L
QV02
MM1111XS
TO PA03
TO AC GAP BB04A
RV45 OPEN
DV01.DV03.DV05.DV13.DV45 or RD9.1ESAB1
LV04 TEM2028AH
LV02 OPEN
CV46 16V100
CV45 0.01
CV47 16V10
CV48 0.01
GJ07 OPEN
RV07 1/6P10k
RV08 OPEN
RN1203
QV06
DV45 OPEN
DVD-Y
DVD-L
DVD-R
V1-S1
SGV
RV02 1/6P75
RV04 1/6P75
V2 /MONO
V1 /MONO
RV10 1/6P75
RV12 10k
RV05 1/6P75
QV10 RN1203
PV01
CE_DP0449_01
JXT1131
QV01
MM1495XD
LinTV RinTV VinTV LinV1 RinV1 VinV1 LinS1 Y/VinS1 RinS1 CinS1 I/O 1 LinS2 Y/VinS2 RinS2 CinS2 I/O 2 LinV2 RinV2
Cout DS Yout Lout1 Vout1 Rout1 Cin1 Vcc Yin1 Lout2 Cin2 Rout2 Yin2 GND Vout2 LoutTV RoutTV BIAS
RV21 OPEN
COUT YOUT VAV
or 2SC1685-Q,TH or 2SC1815Y or KTC3198Y
QV60 2SC1740S
RV60 1/2R100
CV60 16V100
RV62 1/6P75
RV61 1/6P100
RV63 1/6P100
CV61 1DV470
QS60 KTC3198Y
LV01 10u COILTRF4100AT
QS61 2SC1740.Q
OutlermL
OutlermR
PV03
MON_OUT JACK 3P L/MONO R
RS70 1/6P100k
RS64 1/6P1k
CS70 16V22
RS60 1/6P1DD
QS63 2SC2878-A
RS68 1/6P22k
RS61 1/6P2.2k
RS62 1/6P10D
RS71 1/6P1DDk
RS65 1/6P1k
CS71 16V22
RS63 1/6P2.2k
RW01 1/6P75
DVD-Y
PV02
RW02 1/6P75
Cb_DVD
RW03 1/6P75
Cr_DVD
DVD L R
JACK 5P
QS64 2SC2878-A
RS69 1/6P22k
CS72 OPEN
QS62 RN2204
RS66 1/6P1k
RS67 OPEN
A.MUTE
P502A CON DIP 3P
P502B CON DIP 3P
GND
Cb
Cr
V3V
V3L
V3R
RV09 1/6P75
PV04
V3 L R
USE AX (FRONT)
V2L V2S V2R V2C V2S
V1L V1S V1R V1C V1S
CV16 2.2
CS16 2.2
CS14 2.2
CS10 2.2
CS08 2.2
CS02 2.2
CS04 2.2
CS25 2.2
CS26 2.2
CV15 0.01
CV05 0.01
CV03 7L50V0.1
CV01 7L50V0.1
CV27 7L50V0.1
CV29 0.01
CV51 63V0.10
CV25 16V22
CV39 0.01
CV49 16V10
CV46 MTZ11B
CS39 7L35V4.7u
CS37 7L35V4.
RS24 1/6P5.6k
RS43 1/6P10k
RS44 1/6P10k
RS08 1/6P5.6k
RS10 1/6P5.6k
RS16 5.6k
RS17 5.6k
RS14 1/6P5.6k
RS02 1/6P5.6k
RS04 1/6P5.6k
RS25 5.6k 1/6P5.6k
RS26 5.6k 1/6P5.6k
CS45 330
CS46 330
CS47 330
CS48 330
CS44 330
CS49 330
CS50 330
CS52 B1000p
DV09 OPEN
DV13 OPEN
DV03 OPEN
DV05 OPEN
DV15 OPEN
DV27 OPEN
RS41/6P5.6k
CS47 330
CS48 330
CS44 330
CS49 330
CS50 330
CS52 B1000p
4.0 4.0 5.2 5.0 5.0 5.2 5.2 5.2 5.2 5.2 5.2 5.2 5.2 5.2
3.8 3.8 4.0 4.5 4.0 3.8 5.0 3.5 5.2 3.5 3.5
PIP-Y
AVL AVR
CCOMB YCOMB
22+16V
50V0
GND


E3-LINE
+5V-1
23706793
KEY LINE
POWER
KEYB
KEYA
KEYC
LED
RMTO
RMTI
BB100
OPEN BB 16P BLUG yobi
To CONT2(for FLAT CABLE)
(560)
88CS38N-1B
QA01
SBS_PWM
SPK_MUTE
A.MUTE
MUTE
TILT
RMTIN
+9V
+5V-2
12V
0.20ohm JP
PZ01A
1SP PLUG
5V
FSC
SDA
SCL
SBS
SBS_PWM
2.0V(p-p)
4
5
6
7
8

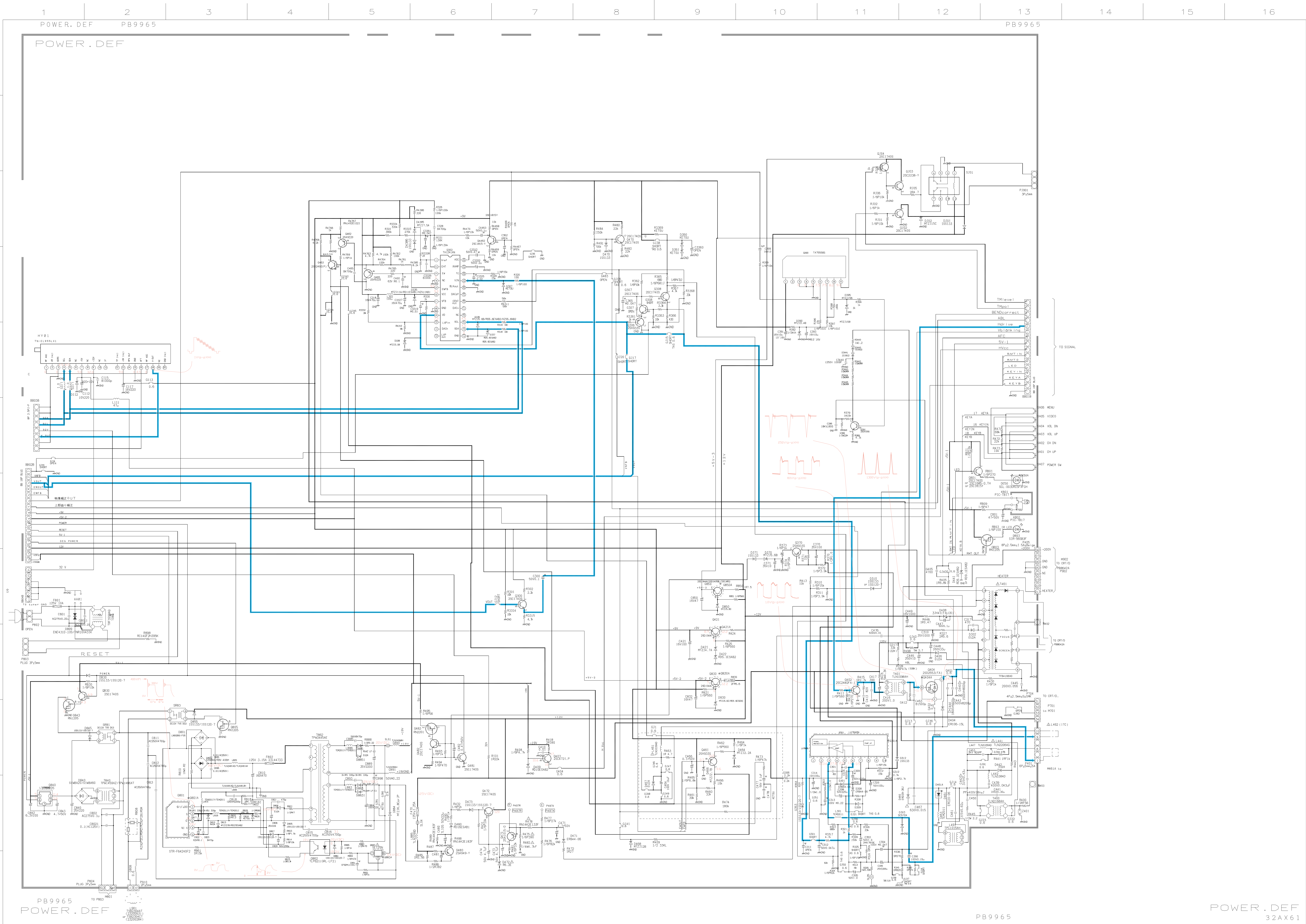
+5V-2
POWER
RESET
5V-1
+9V
+5V
9V
DEGpower
5V-1
RESET
POWER
Top bend corr.
Pic. Corr. OUT
EWFB
EWout
Vout
+19V
12V
GND
+5V-2
+9V
BBD2A
BB 16P BLUG DEF
TO DEF. POWERr
+5V-1
AFC
BLK
H. OUT
ABL
BEND correct
TILT
TILT POL
TILT PWM
BB01A
BB 16P BLUG key
KEYB
KEYA
KEYIN
LED
RMTO
RMTIN
H Vcc
YS
1.7V(p-p)
5.2V(p-p)
DC=0
1V
2.5V(p-p)(v)
2.5V(p-p)(v)
2.5V(p-p)(v)



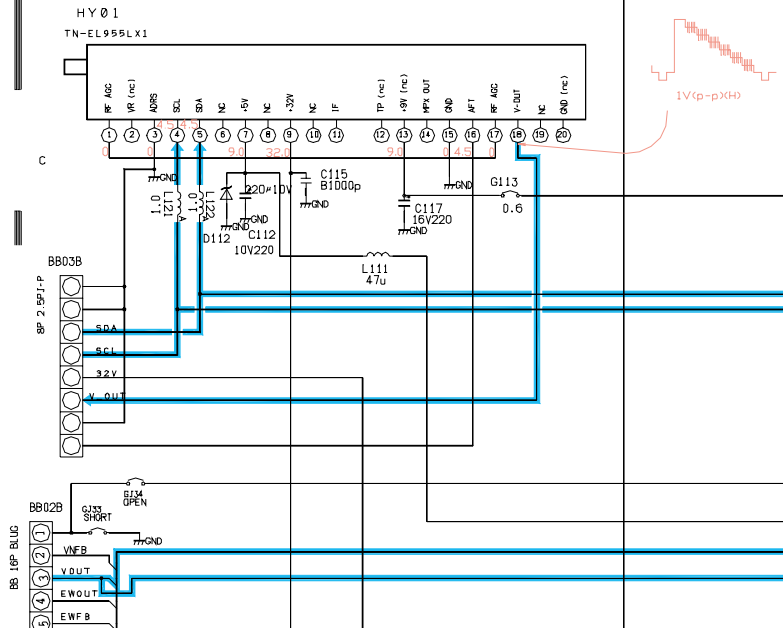
SIGNAL
36AX61

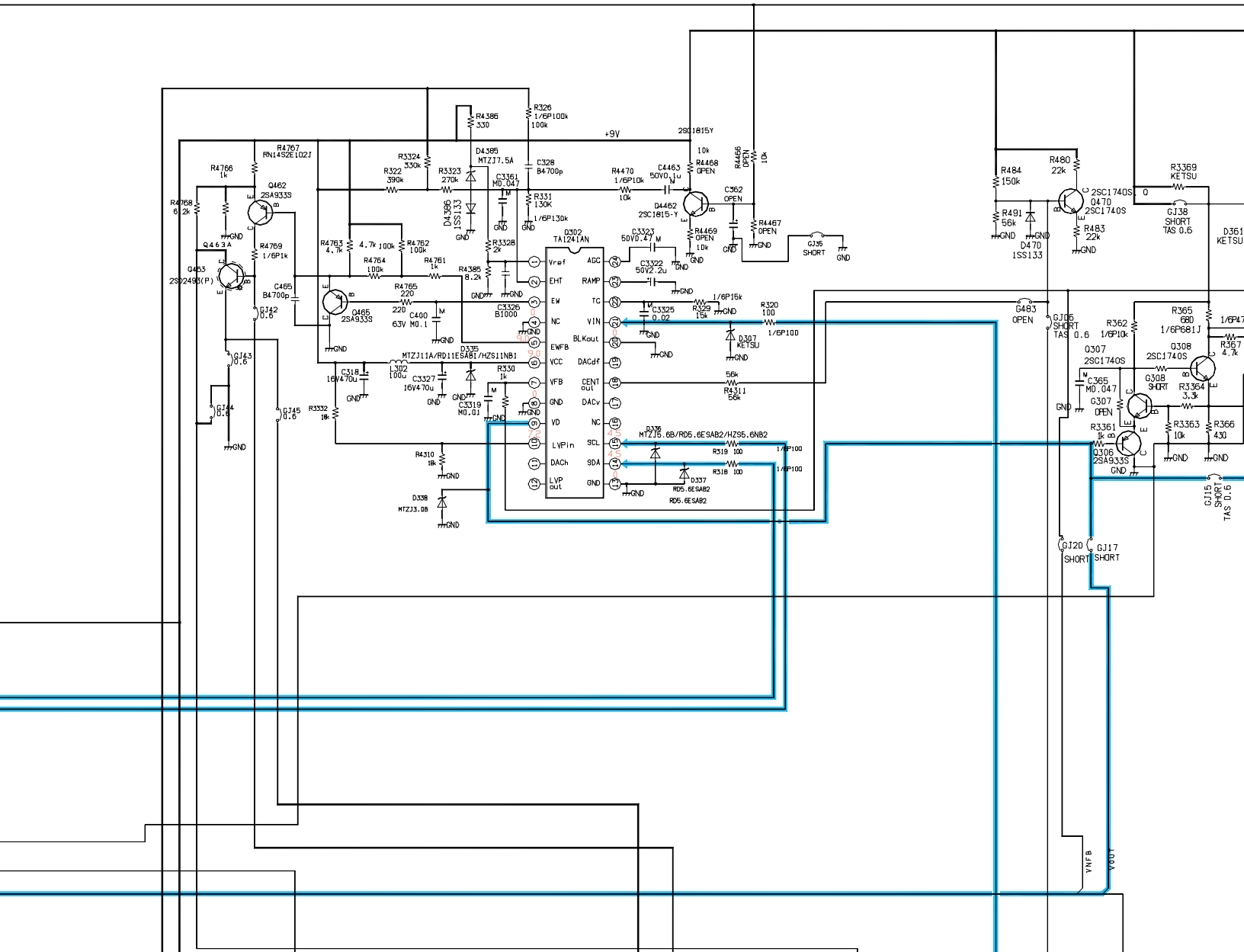
G H I J K L

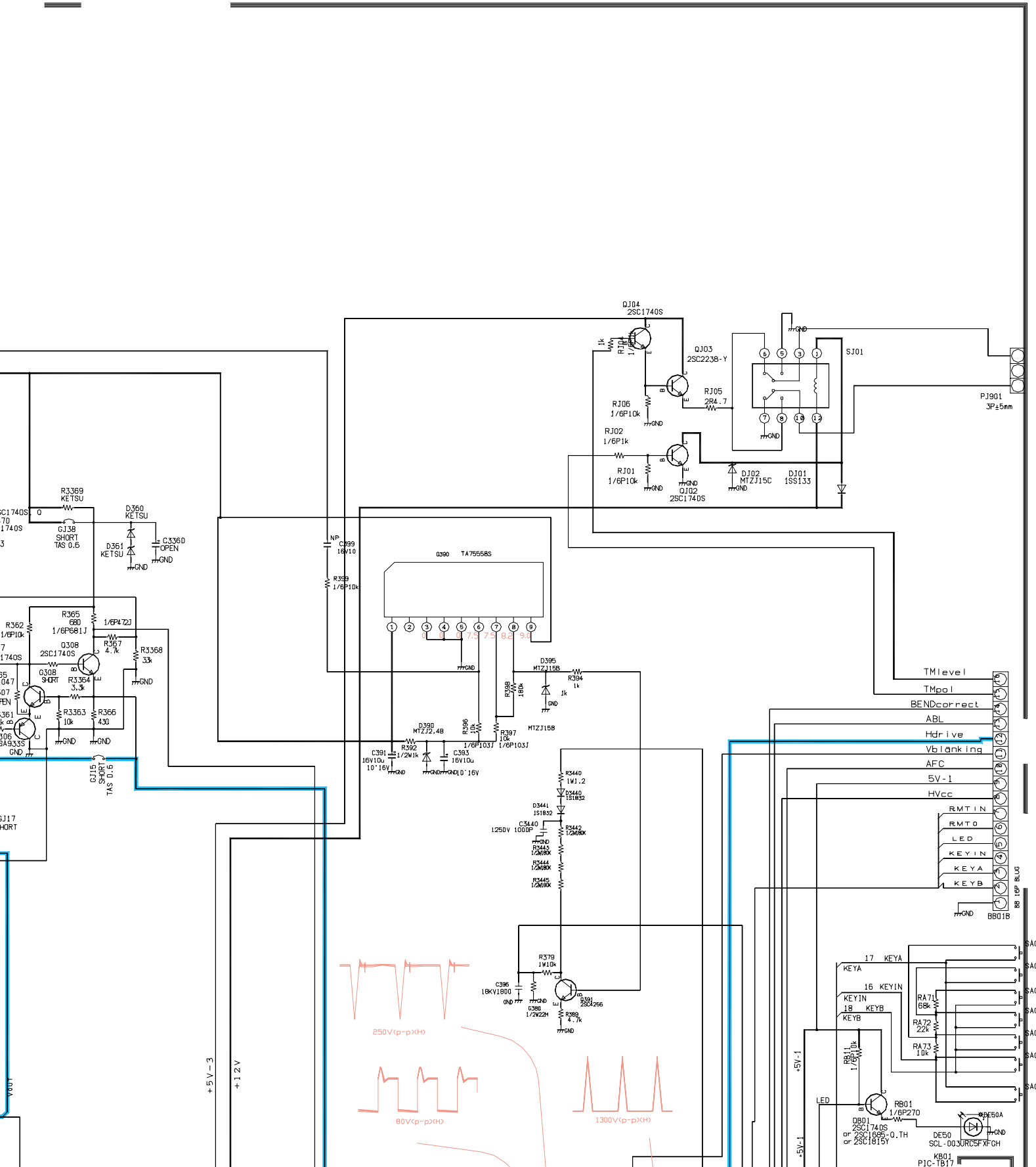
13 14 15 16

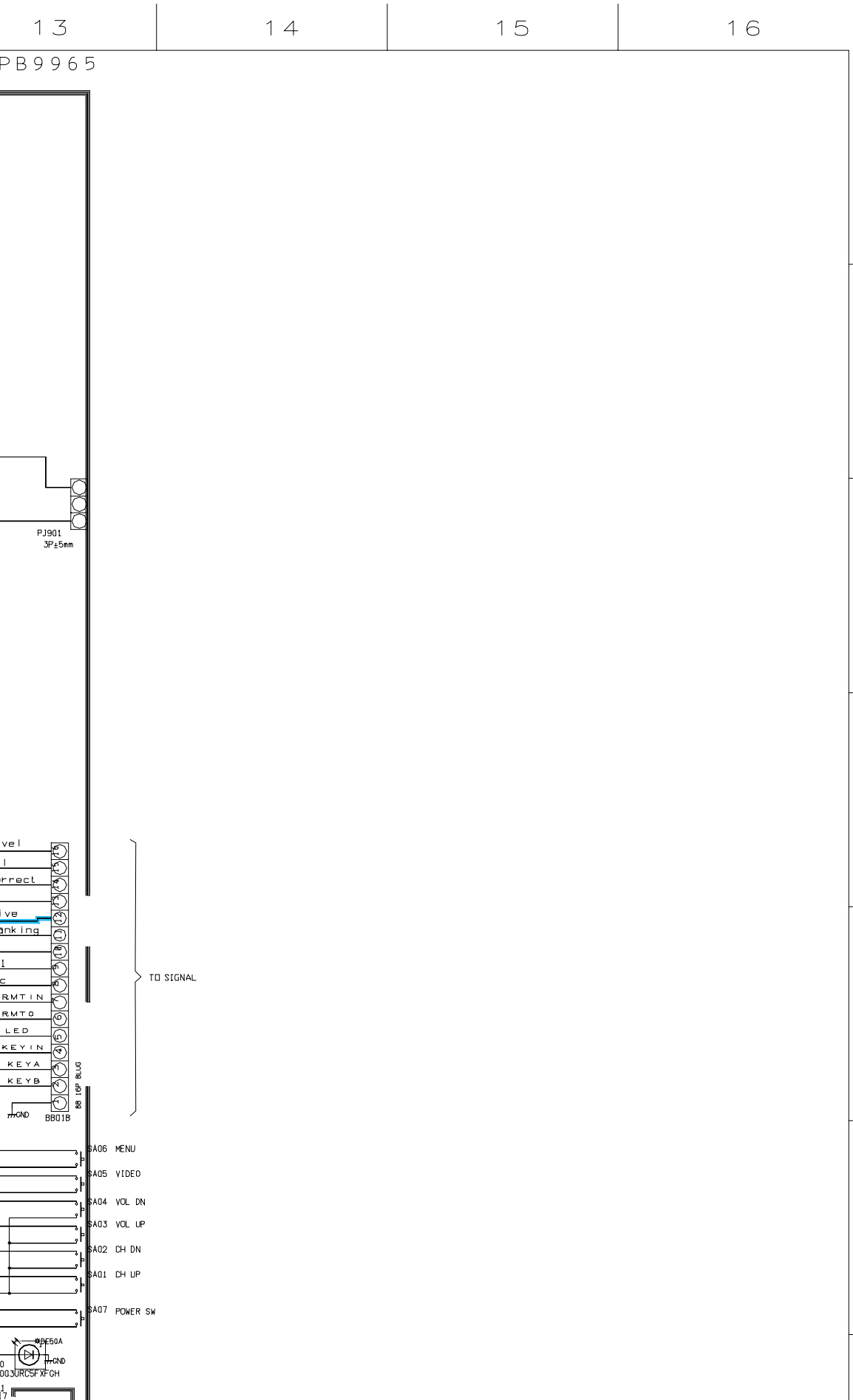

POWER.DEF
PB9965
HY01
TN-EL955LX1
RF AGC
VR (nc)
ADRS
SCL
SDA
+5V
+32V
IF
TP (nc)
+9V (nc)
MPX OUT
GND
AFT
V-OUT
GND (nc)
1V(p-p)(H)
BB03B
SDA
SCL
32V
V OUT
BB02B
BB 16P BLUG
VNFB
VOUT
EWOUT
EWFB
映像補正OUT
上部曲り補正
+9V
+5V-2
POWER
RESET
5V-1
DEG POWER
12V
32 V
BB04B
TO tuner GND
F801
125V 10A
C801
AC275V0.22u
AA01
TRF3220AQ
P802
OPEN
D899
ENE431D-10S/TNR10V431K
R898
RC14GF2H395K
P803
PLUG 3P±5mm
RESET
Q302
TA1241AN
Vref
EHT
EW
NC
EWFB
VCC
VFB
GND
VD
LVPin
DACh
LVP out
AGC
RAMP
TC
VIN
BLKout
DACdf
CENT out
DACv
SCL
SDA
Q462
2SA933S
Q463
2SD2493(P)
Q465
2SA933S
D335
MTZJ11A/RD11ESAB1/HZS11NB1
D336
MTZJ5.6B/RD5.6ESAB2/HZS5.6NB2
Q470
2SC1740S
Q306
2SA933S
Q307
2SC1740S
Q308
2SC1740S
Q390
TA75558S
QJ04
2SC1740S
QJ03
2SC2238-Y
QJ02
2SC1740S
SJ01
PJ901
3P±5mm
250V(p-p)(H)
80V(p-p)(H)
1300V(p-p)(H)
Q391
2SC4256
TMlevel
TMpol
BENDcorrect
ABL
Hdrive
Vblanking
AFC
5V-1
HVcc
RMTIN
RMTO
LED
KEYIN
KEYA
KEYB
BB01B
TO SIGNAL
SA06 MENU
SA05 VIDEO
SA04 VOL DN
SA03 VOL UP
SA02 CH DN
SA01 CH UP
SA07 POWER SW
QB01
2SC1740S
or 2SC1685-Q,TH
or 2SC1815Y
DE50
SCL-003URC5FXFCH
KB01
PIC-TB17
DB03
SIR-56SB3F
QB03
RN1205
P405
8P±2.5mm±1.5A±Beige
M902
TO CRT/D
PB8642A
P902
+200V
GND
NC
HEATER
T461
FOCUS
SCREEN
TFB4166AD
TO CRT/D
PB8642A
Q404
2SD2553(FA)
T401
TLN1098AH
Q402
2SC2482FA-1
Q301
LA7846N
THERMAL PROTECTION
AMP
PUMP UP
T400
TLN2168AH
L491
TPC1015AH
P704
4P±2.5mm±S±SMK
TO CRT/D.
P701
to M701
L462 (ITC)
P401
6P±5mm±5A
M461A to
Q300
2SC1740S
Q850
Q421
2SD1944
Q830
2SD1944
Q370
2SA933S
10V(p-p)(H)
Q403
2SC4721.P
Q461
2SA933S
Q472
2SC1740S
Q471
2SA1015-O
Q480
2SA949-Y
Q481
2SC1740S
Q482
2SC1740S
Q483
RN2201
QB30
2SC1740S
Q843
RN1205
SR83
SR81
Q805
RN1205
T862
TPW3445AE
F802
125V 3.15A 23144733
D840
S1WBA20/S1WBA60
T840
TPW1459AZ/TPW1486AT
Q840
L78MR05
Q801
STR-F6424SF2
Q862
TLP621(GRL-LF2)
SE125N
P804
PLUG 3P±5mm
TO P803
M801
P910
2P±5mm
L901
TSB2304AT
(23200631)
or TSB2304CT
(23200284)
PB9965
POWER.DEF
32AX61

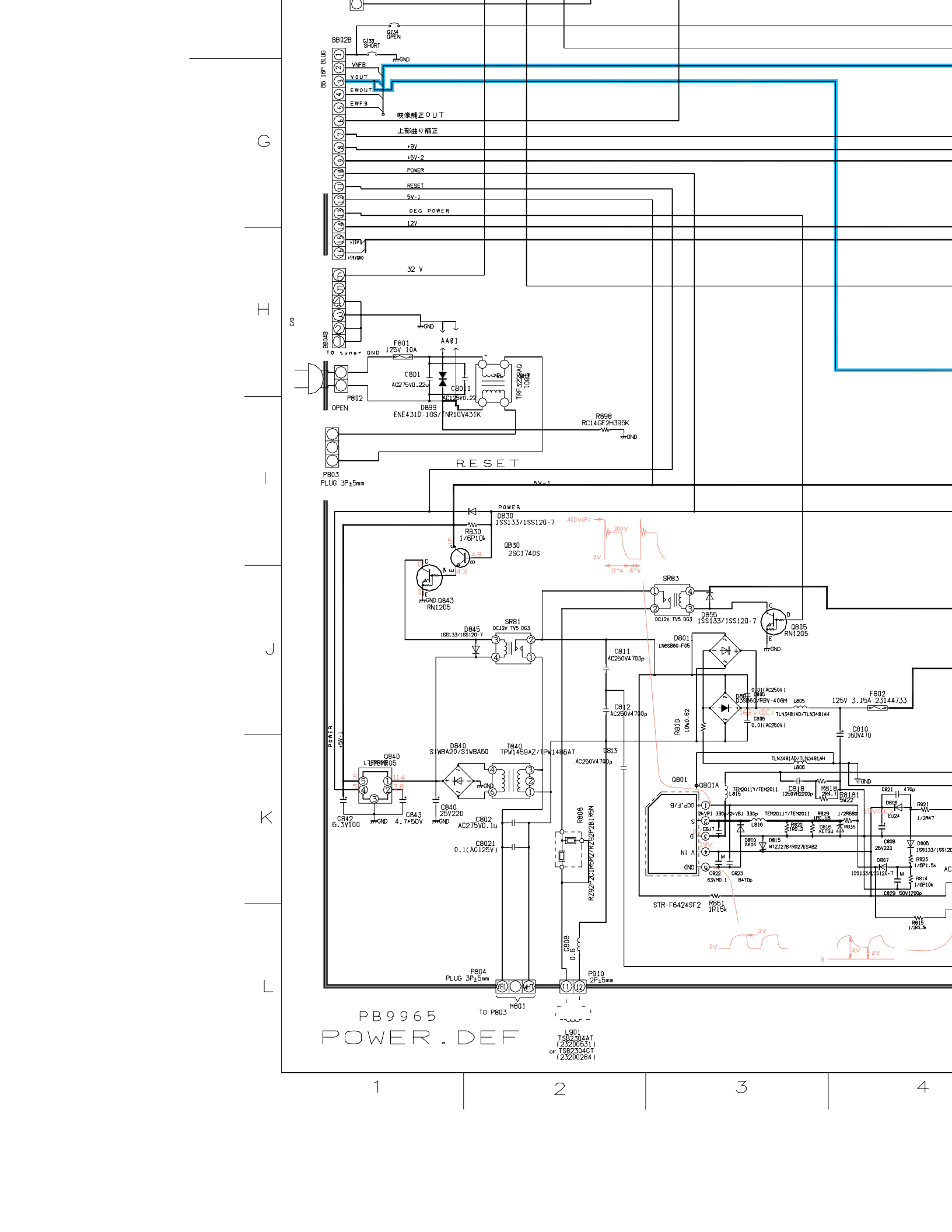
POWER . DEF

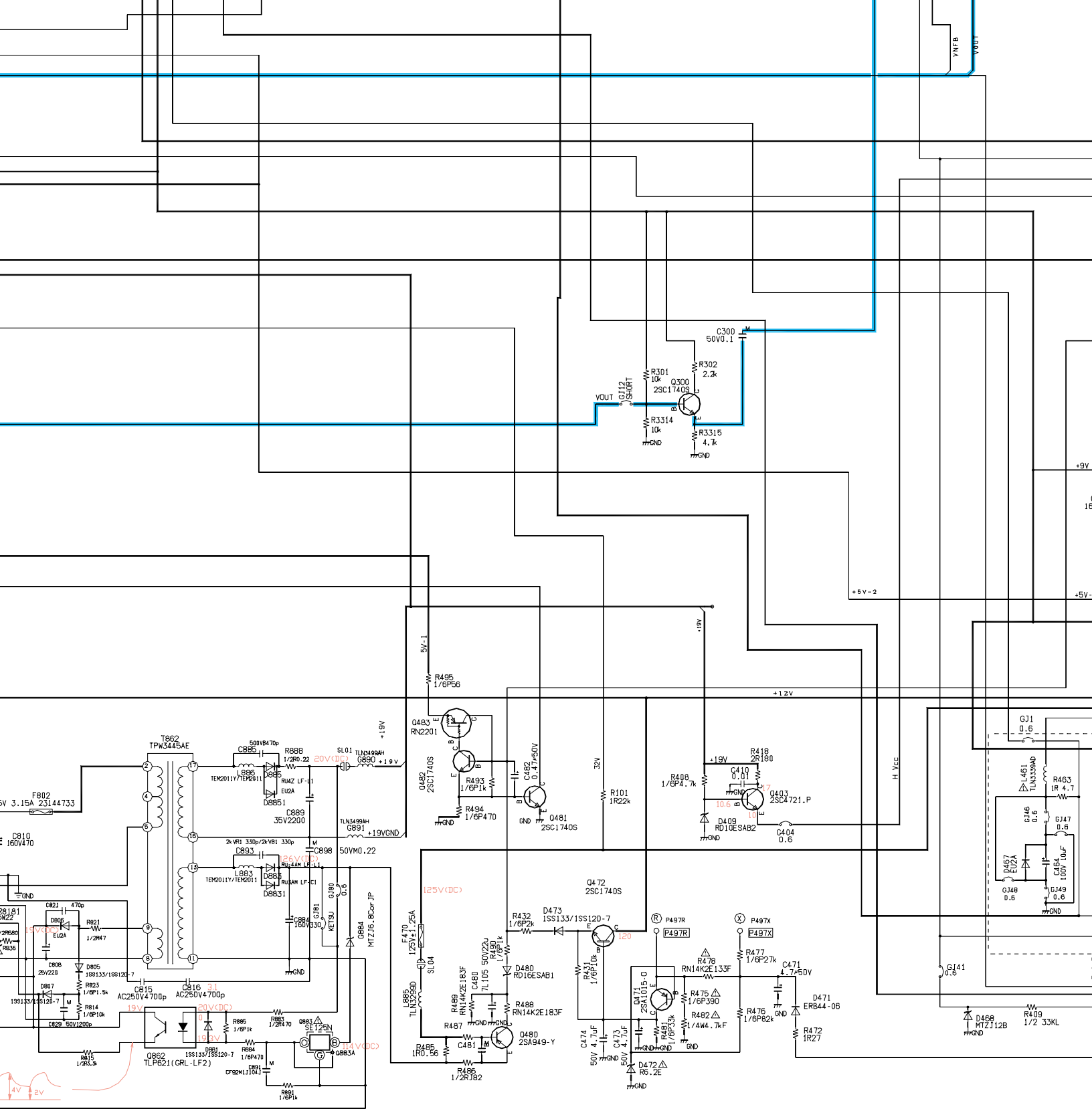

HY01
TN-EL955LX1
RF AGC
VR (nc)
ADRS
SCL
SDA
NC
+5V
NC
+32V
NC
IF
TP (nc)
+9V (nc)
MPX OUT
GND
AFT
RF AGC
V-OUT
NC
GND (nc)
1V(p-p)(H)
C115
B1000p
C117
16V220
G113
0.6
C112
10V220
D112
L111
47u
L121
L122
BB03B
8P 2.5PJ-P
SDA
SCL
32V
V OUT
BB02B
BJ34
OPEN
GJ33
SHORT
BB 16P BLUC
VNFB
VOUT
EWOUT
EWFB

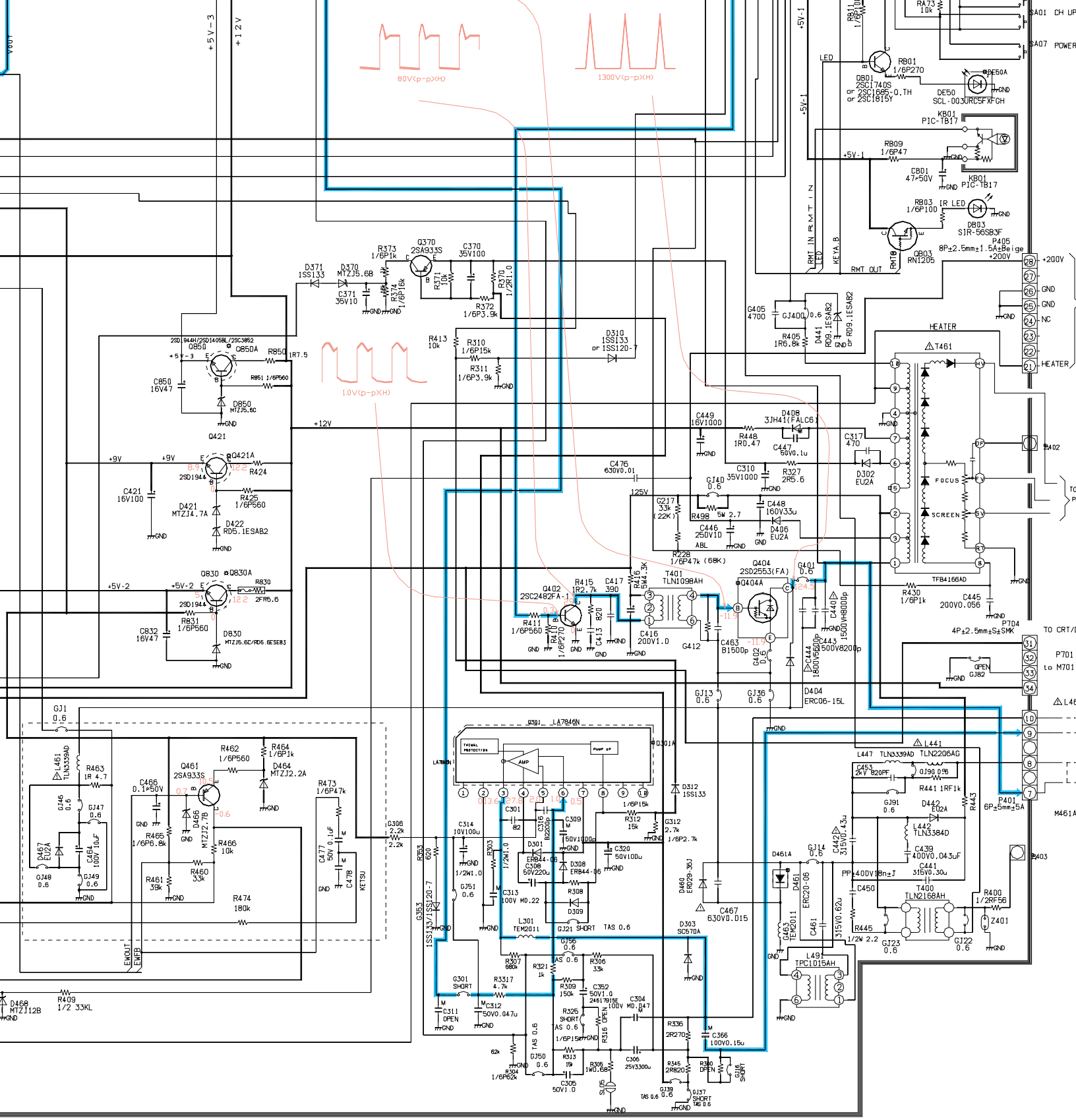

+9V
D302
TA1241AN
Vref
EHT
EW
NC
EWFB
VCC
VFB
GND
VD
LVPin
DACh
LVP out
AGC
RAMP
TC
VIN
BLKout
DACdf
CENT out
DACv
NC
SCL
SDA
GND
Q462 2SA933S
Q463 2SD2498(P)
Q465 2SA933S
Q466 2SA933S
Q307 2SC1740S
Q308 2SC1740S
Q309 2SA933S
Q470 2SC1740S
D4386 MTZJ7.5A
D4396 1SS133
D4462 2SC1815-Y
D335 MTZJ11A/RD11ESAB1/HZS11NB1
D336 MTZJ6.6B/RD6.6ESAB2/HZS6.6NB2
D337 RD6.6ESAB2
D338 MTZJ3.0B
D361 1SS133
D470 1SS133
D307 KETSU
KETSU
OPEN
SHORT
VNFB
VOUT


QJ04 2SC1740S
QJ03 2SC2238-Y
SJ01
PJ901 3P±5mm
RJ06 1/6P10k
RJ05 2R4.7
RJ02 1/6P1k
RJ01 1/6P10k
DJ02 MTZJ15C
DJ01 1SS133
QJ02 2SC1740S
R3369 KETSU
D360 KETSU
D361 KETSU
C3360 OPEN
GJ38 SHORT TAS 0.6
Q390 TA75558S
C399 16V10
R399 1/6P10k
R365 680 1/6P681J
R367 4.7k
R3368 33k
Q308 2SC1740S
R3364 3.3k
R3363 10k
R366 430
GJ15 SHORT TAS 0.6
D390 MTZJ2.4B
R392 1/2W1k
C391 16V10u
C393 16V10u
R396 10k
R397 10k 1/6P103J
D395 MTZJ15B
R394 1k
R398 180k
MTZJ15B
R3440 1W1.2
D3440 1S1832
D3441 1S1832
C3440 125DV 1000P
R3442 1/2W180K
R3443 1/2W180K
R3444 1/2W180K
R3445 1/2W180K
R379 1W10k
C395 18KV180P
Q391 2SC4266
Q380 1/2W22M
R389 4.7k
250V(p-p)(H)
80V(p-p)(H)
1300V(p-p)(H)
+5V-3
+12V
+5V-1
TMlevel
TMpol
BENDcorrect
ABL
Hdrive
Vblanking
AFC
5V-1
HVcc
RMTIN
RMTO
LED
KEYIN
KEYA
KEYB
GND
BB01B
88 16P BLUG
17 KEYA
16 KEYIN
18 KEYB
RA71 68k
RA72 22k
RA73 10k
RB11 1/6P10k
RB01 1/6P270
DB01 2SC1740S or 2SC1695-O,TH or 2SC1815Y
DE50 SCL-003URCSFXFGH
DE50A
KB01 PIC-TB17
SA06 MENU
SA05 VIDEO
SA04 VOL D
SA03 VOL U
SA02 CH DN
SA01 CH UP
SA07 POWER

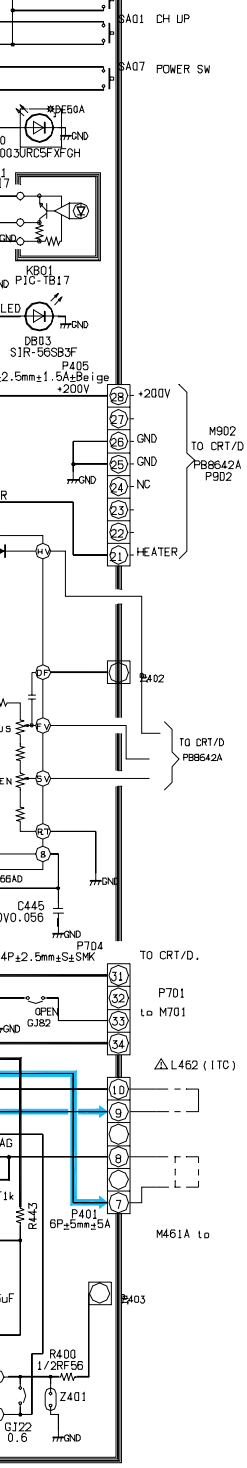

13
14
15
16
PB9965
A
B
C
D
E
F
PJ901
3P±5mm
vel
l
rrect
ive
ank ing
1
c
RMTIN
RMTO
LED
KEYIN
KEYA
KEYB
GND
BB01B
BB 10P BLUG
TO SIGNAL
SA06 MENU
SA05 VIDEO
SA04 VOL DN
SA03 VOL UP
SA02 CH DN
SA01 CH UP
SA07 POWER SW
*PE50A
GND
0
0003URC5FXFCH
1
17


BB02B
BB 16P BLUG
VNFB
VOUT
EWOUT
EWFB
映像補正ＯＵＴ
上部曲り補正
+9V
+5V-2
POWER
RESET
5V-1
DEG POWER
12V
32 V
BB04B
TO tuner GND
F801
125V 10A
AA01
C801
C811
P802
OPEN
D899
ENE431D-10S/TNR10V431K
R898
RC14GF2H395K
P803
PLUG 3P±5mm
RESET
POWER
DB30
1SS133/1SS120-7
RB30
1/6P10k
QB30
2SC1740S
SR83
SR81
D845
D855
Q805
RN1205
D801
LN6S860-F05
C812
R810
C810
160V470
F802
125V 3.15A 23144733
Q840
D840
S1WBA20/S1WBA60
T840
TPW1459AZ/TPW1486AT
C813
Q801
STR-F6424SF2
R861
1R15k
C842
6.3V100
C843
4.7/50V
C840
25V220
C802
AC275V0.1u
C8021
0.1(AC125V)
R808
RZ92P2CTRSMZ/RZ92P2B1RSM
G808
0.5
P804
PLUG 3P±5mm
TO P803
M801
P910
2P±5mm
LS01
TSB2304AT
(23200631)
OR TSB2304CT
(23200284)
PB9965
POWER.DEF
1
2
3
4
G
H
I
J
K
L


C300 50V0.1
R301 10k
R302 2.2k
Q300 2SC1740S
VOUT
G112 SHORT
R3314 10k
R3315 4.7k
GND
+9V
+5V-2
+5V-1
+19V
+12V
R495 1/6P56
Q483 RN2201
Q482 2SC1740S
R493 1/6P1k
R494 1/6P470
C482 0.47+50V
Q481 2SC1740S
R101 1R22k
32V
R408 1/6P4.7k
R418 2R180
C410 0.01
Q403 2SC4721.P
D409 RD10ESAB2
G404 0.6
H Vcc
GJ1 0.6
L461 TLN3399AD
R463 1R 4.7
GJ45 0.6
GJ47 0.6
GJ48 0.6
GJ49 0.6
D467 EU2A
C464 100V 10uF
GJ141 0.6
R409 1/2 33KL
D468 MTZJ12B
T862 TPW3445AE
F802 3.15A 23144733
C810 160V470
C885 500VB470p
L886 TEM2011Y/TEM2011
D885 RU4Z LF-L1
D8851 EU2A
C889 35V2200
R888 1/2R0.22
SL01 TLN3499AH
G890 +19V
G891 +19VGND
C893 2kVB1 330p/2kVB1 330p
L883 TEM2011Y/TEM2011
D883 RU4AM LF-C1
D8831
C898 50VM0.22
C884 160V330
G881 KET3U
G880 0.6
Q884 MTZJ6.8C or JP
C821 470p
D808 EU2A
R821 1/2R47
D808 25V220
D805 1SS133/1SS120-7
R823 1/6P1.5k
D807 1SS133/1SS120-7
R814 1/6P10k
C829 50V1200p
C815 AC250V4700p
C816 AC250V4700p
R8181
R8680
R8835
R815 1/2R3.3k
Q862 TLP621(GRL-LF2)
R883 1/2R470
R886 1/6P1k
R884 1/6P470
R891 1/6P1k
D891 DFS2M1J1041
Q883 SE125N
Q883A
R887 1/6P1k
R881 1/6P1k
R882 1/6P1k
D881 1SS133/1SS120-7
19V
20V(DC)
19.2V
14V(DC)
4V
2V
125V(DC)
Q472 2SC1740S
F470 125V±1.25A
SL04
L885 TLN3299D
D473 1SS133/1SS120-7
R432 1/6P2k
D480 RD16ESAB1
R490 1/6P1k
50V22u
7L105
C480
R489 RN14K2E183F
R488 RN14K2E183F
R487
C481
Q480 2SA949-Y
R485 1R0.56
R486 1/2RJ82
R431 1/6P10k
C474 4.7uF 50V
C473 4.7uF 50V
D472 R6.2E
Q471 2SA1015-O
R481 1/6P33k
R482 1/4W4.7kF
R478 RN14K2E133F
R475 1/6P390
R476 1/6P82k
R477 1/6P27k
C471 4.7+5DV
D471 ERB44-06
R472 1R27
P497R
P497X
GND


+5V-3
+12V
80V(p-p)(H)
130.0V(p-p)(H)
1.0V(p-p)(H)
+5V-1
LED
RB01 1/6P270
DB01 2SC1740S or 2SC1685-Q,TH or 2SC1815Y
DE50 SCL-003JRCSFXFCH
KB01 PIC-TB17
RB09 1/6P47
CB01 47/50V
RB03 1/6P100
IR LED
DB03 SIR-56SB3F
QB03 RN1205
RMT IN
RMT OUT
KEY A,B
P405 8P±2.5mm±1.5A±Beige
+200V
GND
NC
HEATER
T461
FOCUS
SCREEN
TFB4166AD
P402
P704 4P±2.5mm±S±SMK
TO CRT/D
P701
To M701
P401 6P±5mm±5A
M461A
Q850 2SD1944H/2SD1405BL/2SC3852
Q850A
R850 1R7.5
R851 1/6P560
C850 16V47
D850 MTZJ5.6C
Q421
+9V
Q421A
2SD1944
R424
C421 16V100
R425 1/6P560
D421 MTZJ4.7A
D422 RD5.1ESAB2
Q830 Q830A
+5V-2
R830
2SD1944
2FR5.6
R831 1/6P560
C832 16V47
D830 MTZJ5.6C/RD5.6ESEB3
+12V
D371 1SS133
D370 MTZJ5.6B
C371 35V10
R373 1/6P1k
Q370 2SA933S
C370 35V100
R371 10k
R374 1/6P16k
R370 1/2R1.0
R372 1/6P3.9k
R413 10k
R310 1/6P15k
R311 1/6P3.9k
D310 1SS133 or 1SS120-7
C449 16V1000
D408 3JH41(FALC6)
R448 1R0.47
C447 50V0.1u
C476 630V0.01
C310 35V1000
R327 2R5.6
GJ40 0.6
125V
G217 33k (22K)
R498 5W 2.7
C448 160V33u
C446 250V10 ABL
D406 EU2A
C317 470
D302 EU2A
R405 1R6.8k
G405 4700
GJ40 0.6
D441 RD9.1ESAB2 or RD9.1ESAB2
R226 1/6P47k (68K)
Q402 2SC2482FA-1
R411 1/6P560
R415 1R2.7k
C417 390
R414 5W4.3K
T401 TLN1098AH
C416 200V1.0
G412
Q404 2SD2553(FA)
Q404A
Q401 GJ0.6
C463 B1500p
G402 0.6
C444 1800V6800p
C440 1500VH8000p
C443 500V8200p
C445 200V0.056
R430 1/6P1k
GJ13 0.6
GJ36 0.6
D404 ERC06-15L
GJ1 0.6
L461 TLN3339AD
R463 1R 4.7
GJ46 0.6
GJ47 0.6
D467 EU2A
C464 100V 10uF
GJ48 0.6
GJ49 0.6
R462 1/6P560
R464 1/6P1k
Q461 2SA933S
D464 MTZJ2.2A
C466 0.1u50V
D466 MTZJ2.7B
R465 1/6P6.8k
R466 10k
R460 33k
R461 39k
R473 1/6P47k
C477 50V 0.1uF
C478
KEY3U
R474 180k
G306 2.2k 2.2k
EWOUT
EWFB
D468 MTZJ12B
R409 1/2 33KL
IC301 LA7846N
THERMAL PROTECTION
AMP
PUMP UP
C314 10V100u
C316 B2200p
C309 50V1000u
C301 82
R312 15k
G312 2.7k 1/6P2.7k
D312 1SS133
R303 1/2W1.0
D301 ERB44-06
D308 ERB44-06 50V220u
C320 50V100u
C313 100V M0.22
R308
D309
L301 TEM2011
GJ21 SHORT TAS 0.6
GJ51 0.6
G353 1SS133/1SS120-7
R307 680k
R321 1k
R306 33k
R309 150k
C352 50V1.0
R325 SHORT TAS 0.6
R316 OPEN
C304 100V M0.047
C305 50V1.0
R305 1W0.68
R336 2R270
C366 100V0.15u
R345 2R820
R300 OPEN
G316 SHORT
G301 SHORT
R3317 4.7k
C311 OPEN
C312 50V0.047u
R304 1/6P62k
GJ50 0.6
GJ39 0.6
GJ37 SHORT TAS 0.6
D303 SC570A
D460 ERB29-36J
C467 630V0.015
D461A
D461 ERC20-06
GJ14 0.6
L441 TLN2206AG
L447 TLN3339AD
C453 2KV 820PF
GJ90 0.6
R441 1RF1k
GJ91 0.6
D442 EU2A
R443
L442 TLN3384D
C439 400V0.043uF
C441 315V0.30u
C442 315V0.43u
C450
T400 TLN2168AH
R400 1/2RF56
Z401
R445 1/2W 2.2
GJ23 0.6
GJ22 0.6
L491 TPC1015AH
C461 315V0.62u
C465 TEM2011
GND
+5V-3
+9V
+5V-2
+12V
+5V-1
+200V
+12V
+5V-1
+5V-2
+9V
+5V-3
GND

PB9965



G

H

I

J

K

L

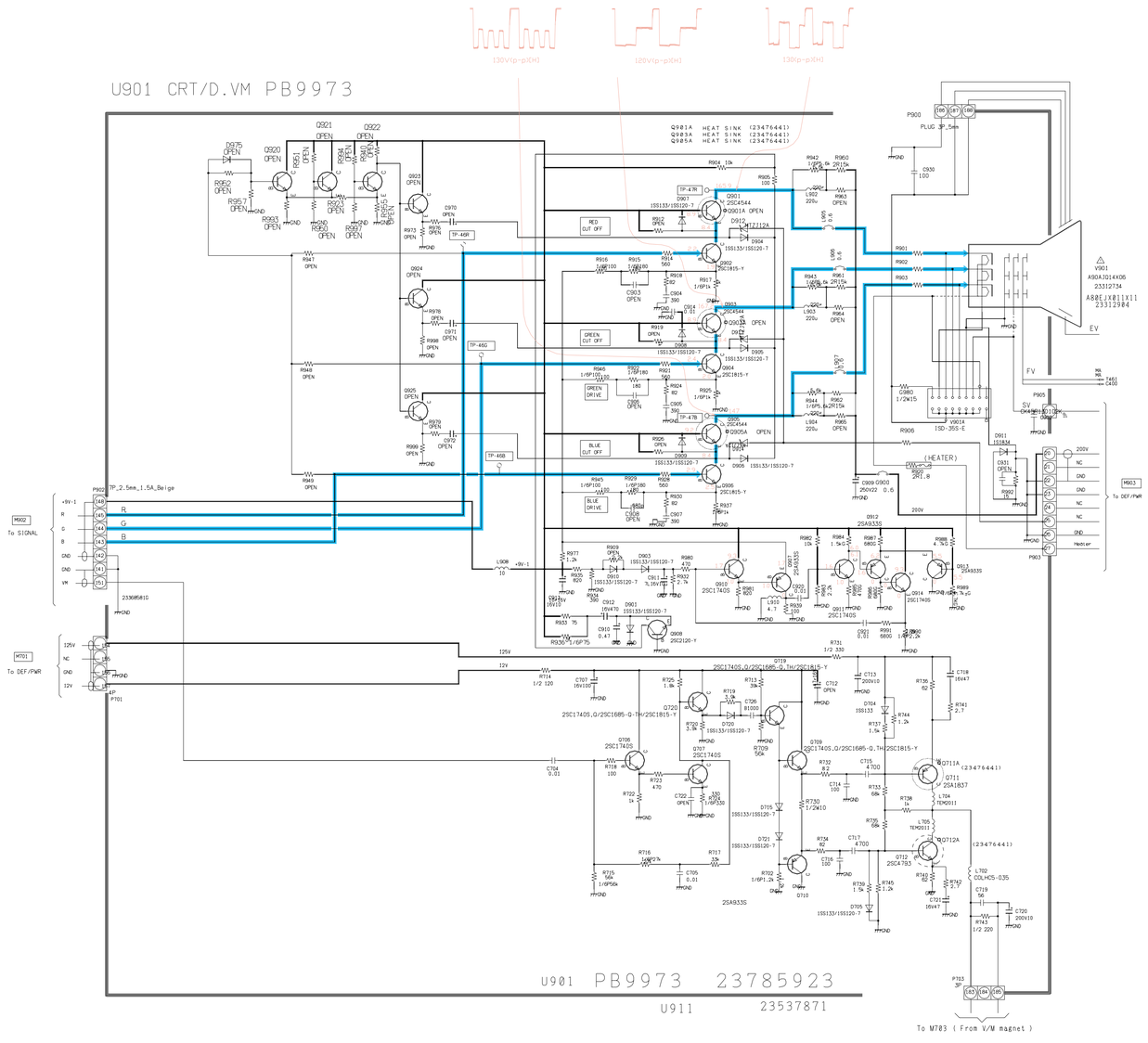
POWER . DEF

32AX61

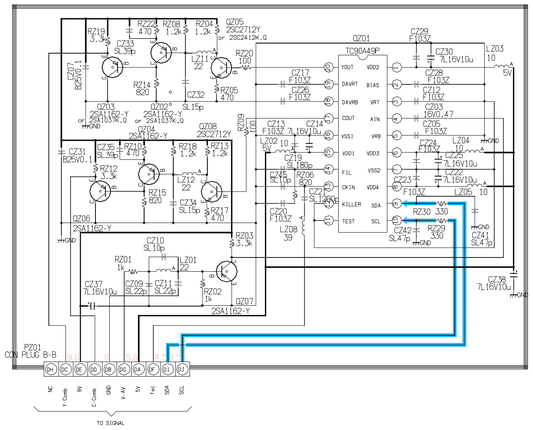
5

13 | 14 | 15 | 16

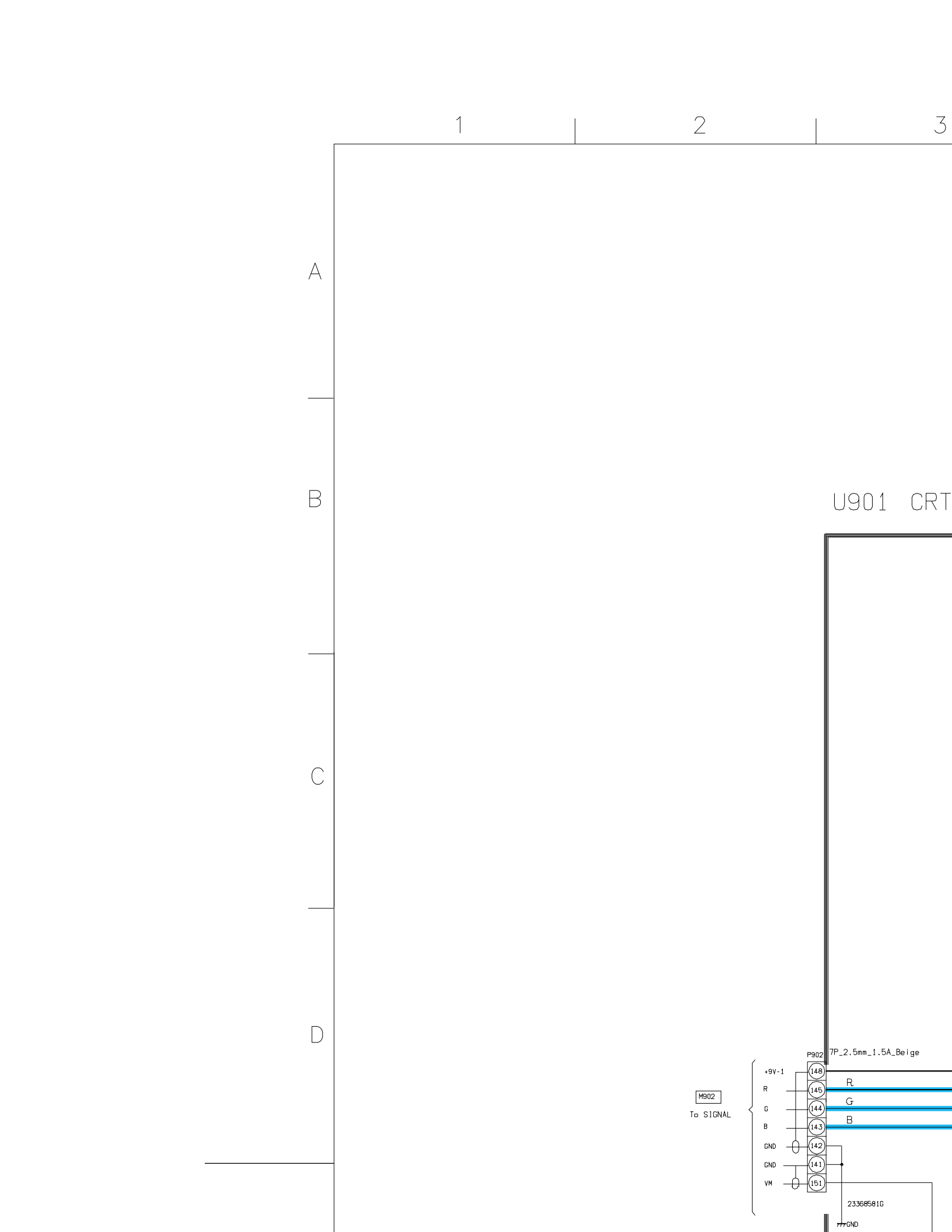
U901 CRT/D.VM PB9973

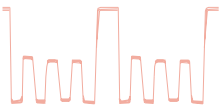


DIGTAL COME FILTER(3LINE) PB9398A

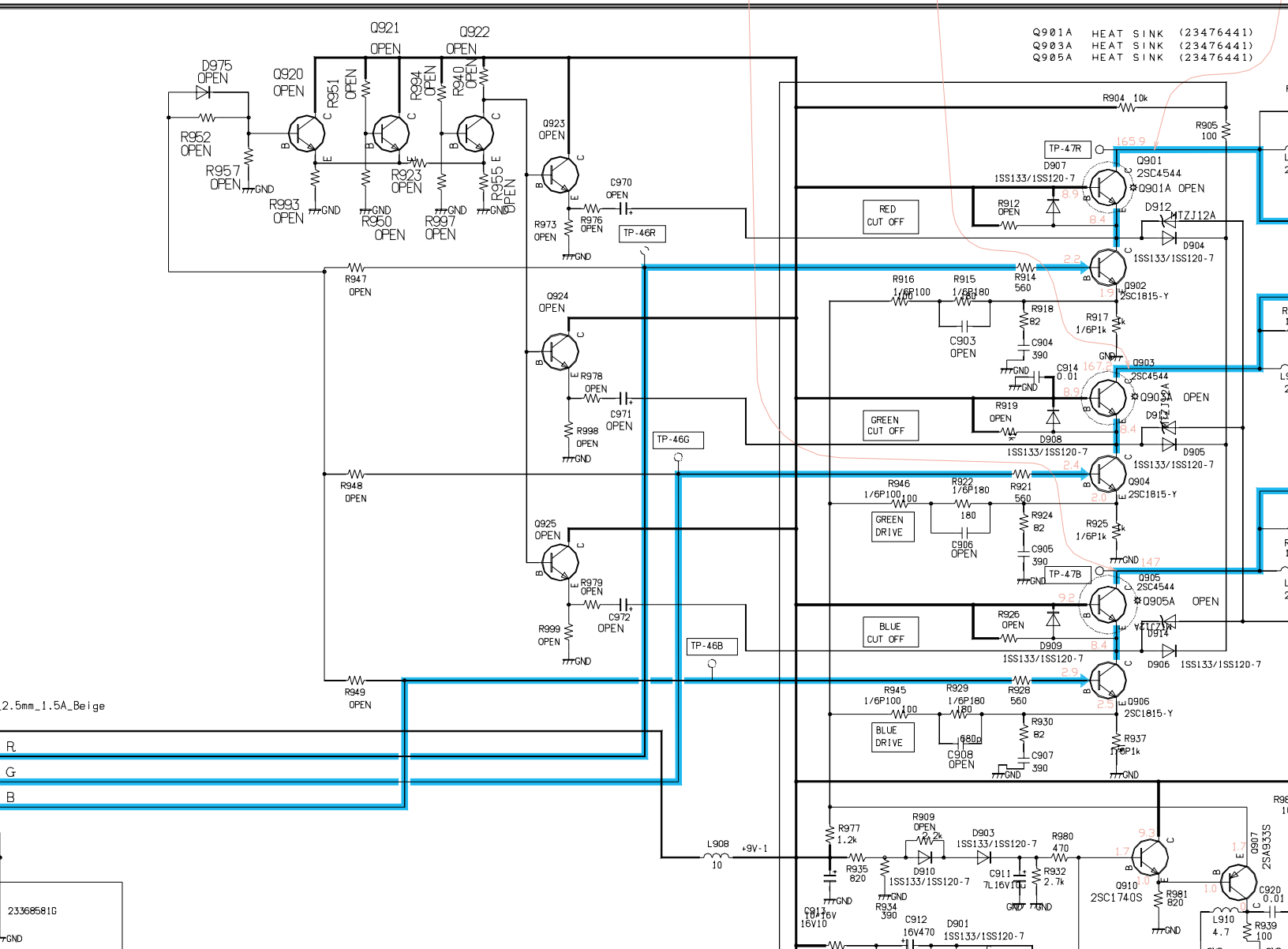


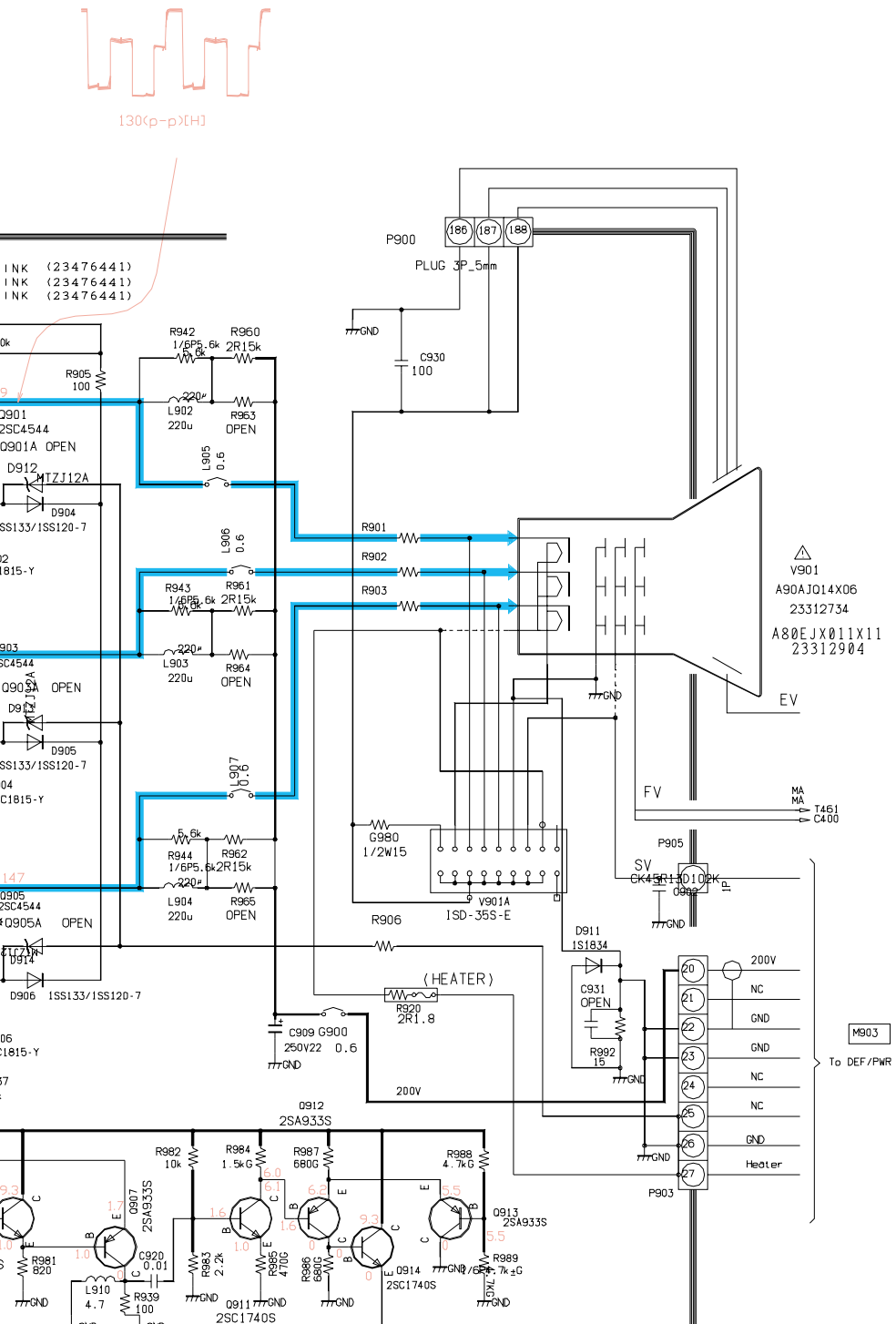
3L DIGI-COMB
CRT-D VM
36AX61


1
2
3
A
B
C
D
U901 CRT
P902
7P_2.5mm_1.5A_Beige
+9V-1
R
G
B
GND
GND
VM
148
145
144
143
142
141
151
M902
To SIGNAL
23368581G
GND



J901 CRT/D.VM PB9973




130(p-p)[H]
P900
PLUG 3P_5mm
186
187
188
GND
C930
100
R942
R960
2R15k
R905
100
L902
220u
R963
OPEN
L905
0.6
D912
MTZJ12A
D904
L906
0.6
R901
R902
R903
R943
R961
2R15k
L903
220u
R964
OPEN
V901
A90AJQ14X06
23312734
A80EJX011X11
23312904
EV
FV
L907
0.6
D905
R944
R962
2R15k
L904
220u
R965
OPEN
G980
1/2W15
V901A
ISD-35S-E
R906
P905
SV
CK45R1H101K
D906 1SS133/1SS120-7
D914
D911
1S1834
(HEATER)
R920
2R1.8
C909 G900
250V22 0.6
C931
OPEN
R992
15
200V
NC
GND
GND
NC
NC
GND
Heater
M903
To DEF/PWR
P903
Q912
2SA933S
R982
10k
R984
1.5kG
R987
680G
R988
4.7kG
Q913
2SA933S
Q907
2SA933S
R981
820
C920
0.01
L910
4.7
R939
100
R983
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R989
4.7k±G
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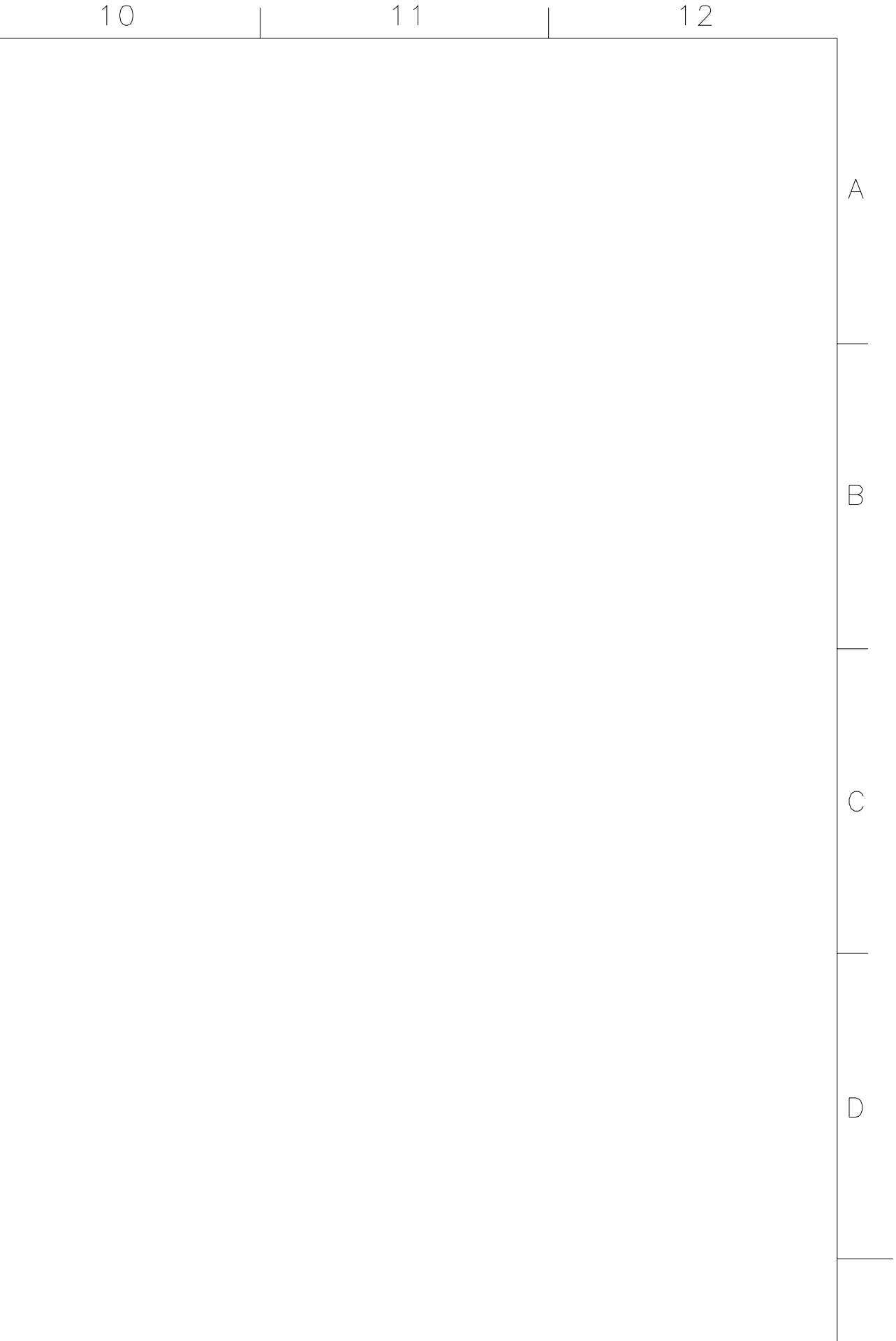
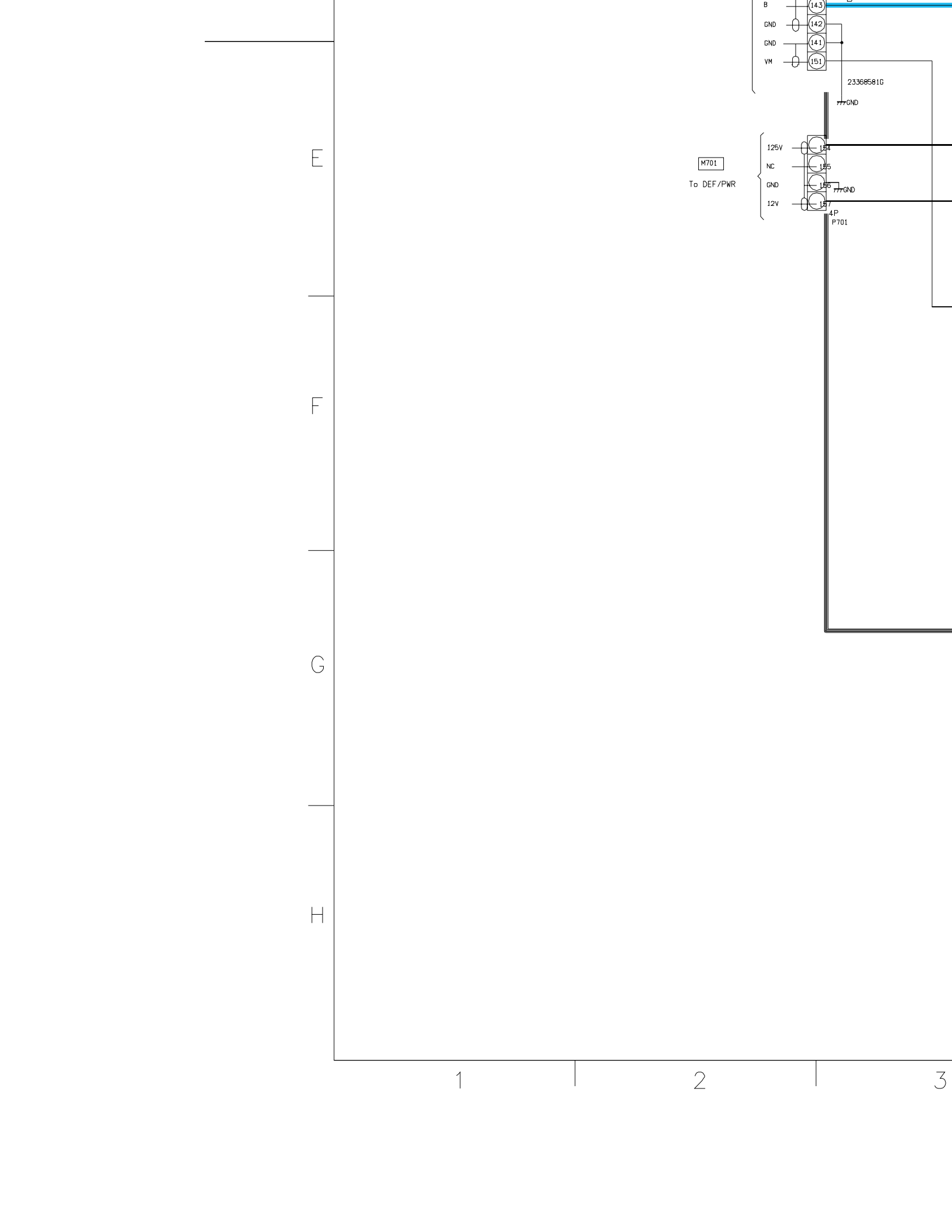
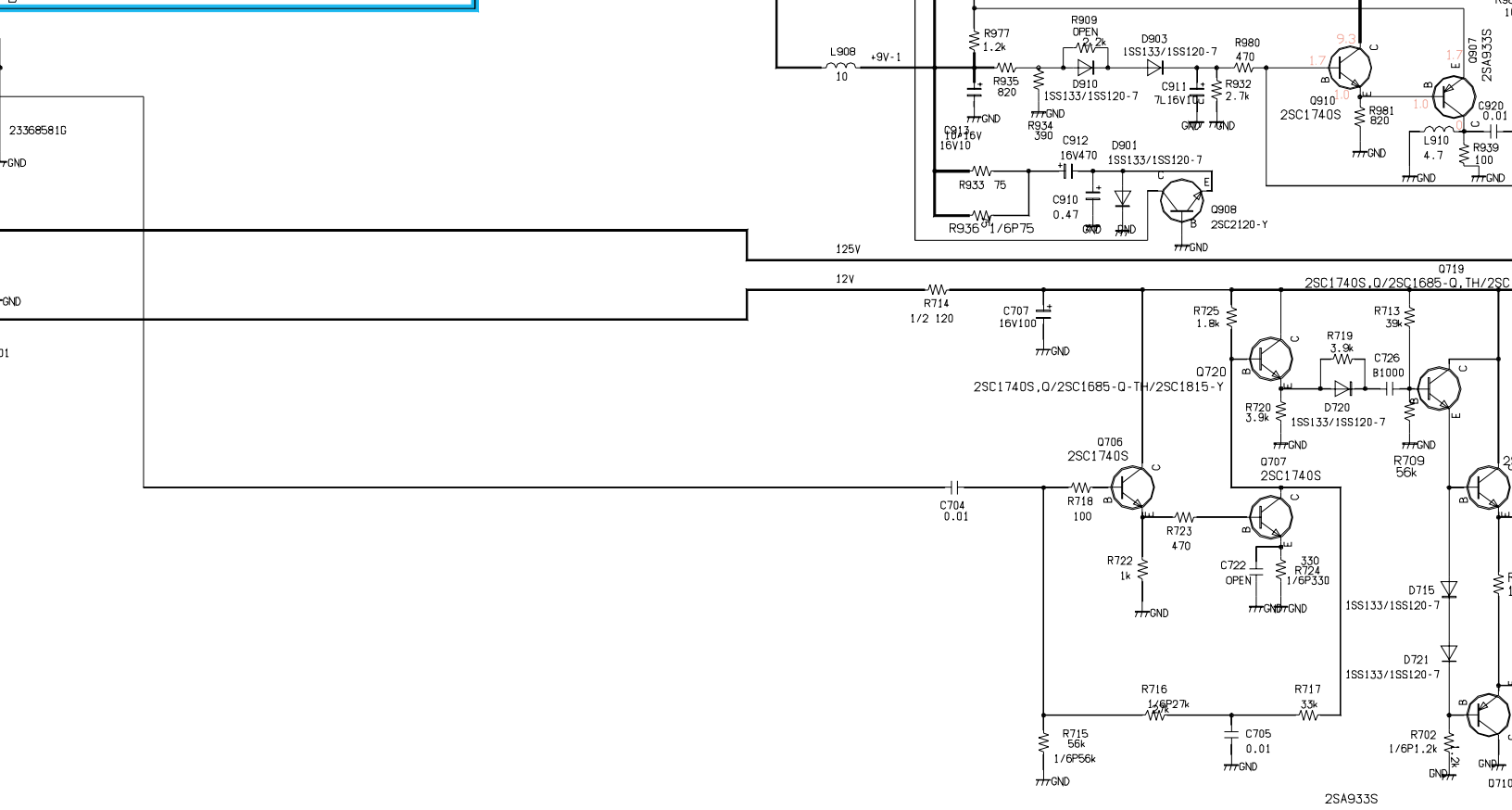
2SC1740S


10
11
12
A
B
C
D

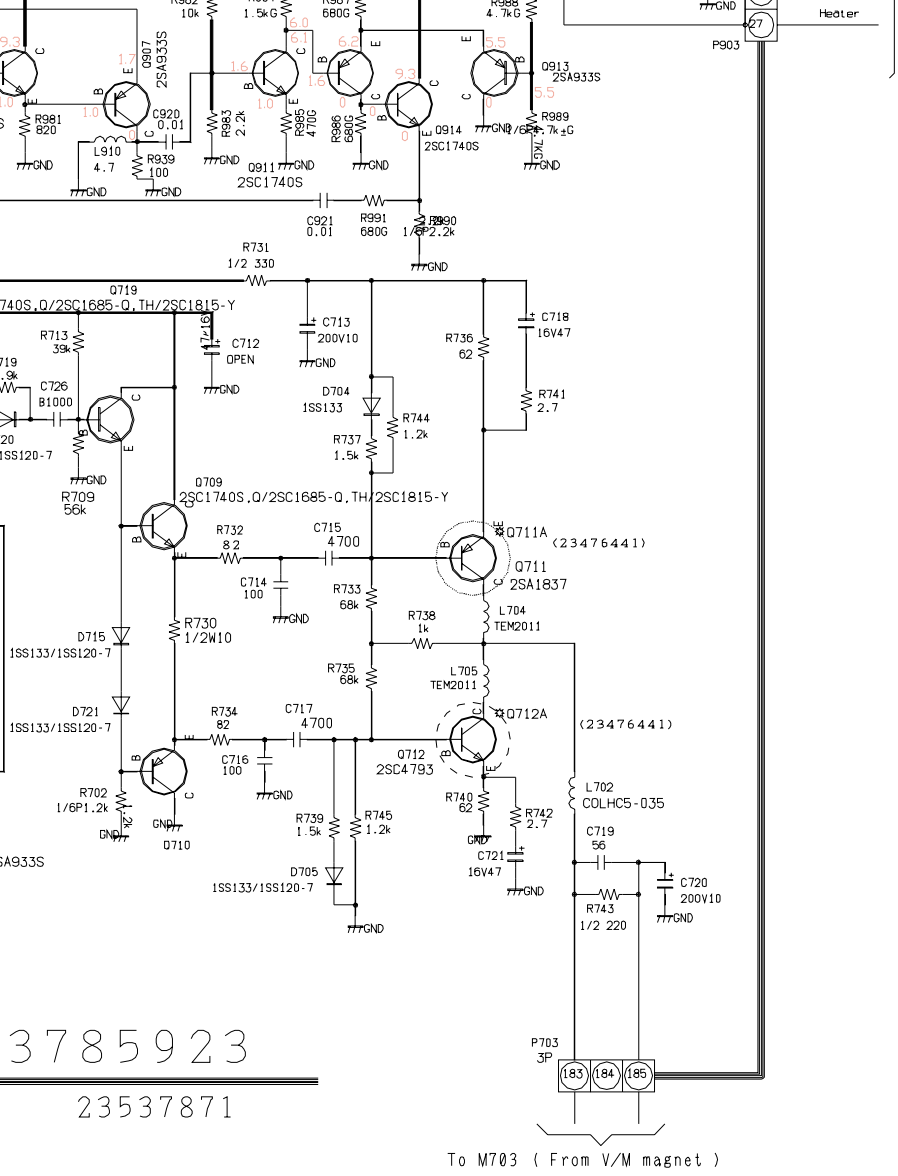

B
GND
GND
VM
143
142
141
151
23368581G
GND
125V
NC
GND
12V
154
155
156
157
GND
4P
P701
M701
To DEF/PWR
E
F
G
H
1
2
3



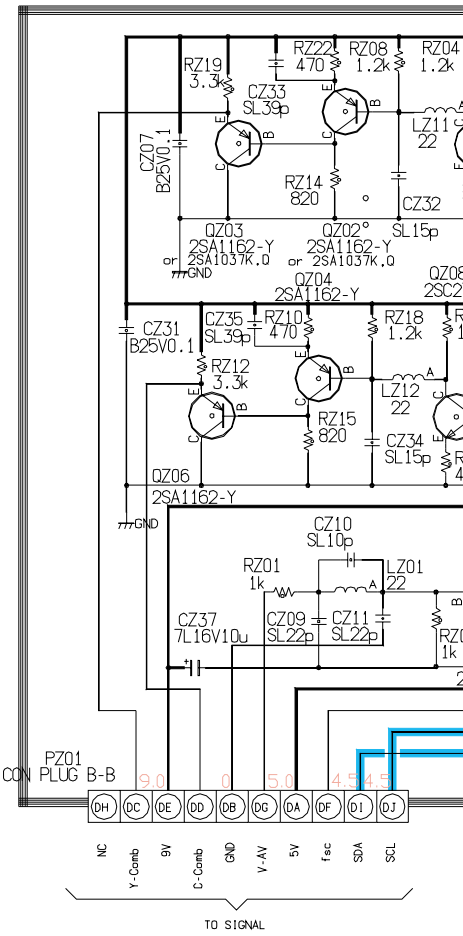
U901 PB9973 237859

U911 235378

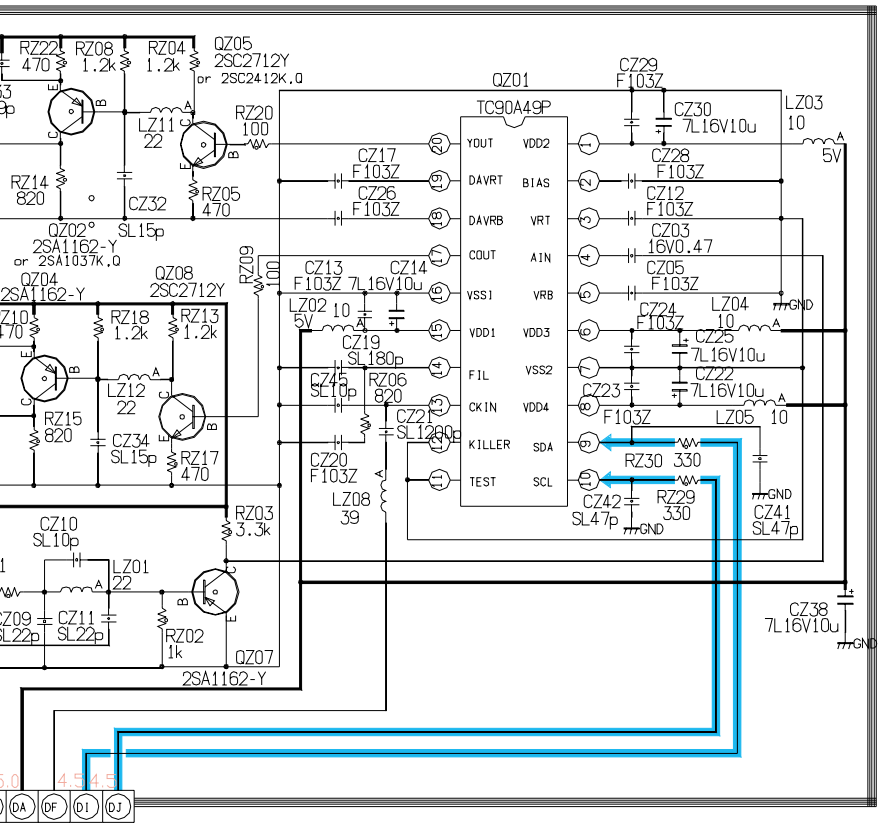
3 4 5 6



DIGTAL COME FILTER(



FILTER(3LINE)　PB9398A



3L DIGI-COMB
CRT-D VM
36AX61

E F G H

10 11 12